980/1

ON SCENE

THE NATIONAL MARITIME SAR REVIEW

ARY

DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

TD 5.24:

Issue No. 1-80

ON SCENE
THE NATIONAL MARITIME SAR REVIEW

Commercial Air MEDEVAC Service

When the "ON SCENE" staff hears about an air ambulance service we publish the information in the interest of Search and Rescue. The name of a new one on us is Community Ambulance Inc. It makes the following claims:

a. Maintains an office in Milwaukee, Wisconsin; service available 24 hours per day. Call collect telephone number is (414) 645-5515.

b. Coverage of the entire United States and Europe.

c. Service consists of fully trained professionals with special training in air transfers.

d. Will also transport donor organs or blood.

If there is an air medevac service in your area, send the information to the "ON SCENE" magazine and we will pass it on.

Measuring the Current?

"A datum marker buoy should have been used to measure the water current."---This statement has been a conclusion on a number of SAR case studies in recent years. What it seems to be saying is that there is still a lack of understanding of the value of actual current measurements during a SAR case.

MEASUREMENTS vs CALCULATIONS

All of the means for estimating sea current and wind current are deficient. They should only be used when it is not possible to get on scene measurements of the actual combined water currents. Today, operational units have two current measuring tools: the Expendable Surface Current Probe (ESCP) and the Datum Marker Buoy (DMB). The ESCP gives a quick measurement of the instantaneous current at a datum, while the DMB provides a means for long term averaging of the water current in a search area. With these two tools Coast Guard units should rarely be surprised by deviations of actual currents from recorded or calculated currents.

ON SCENE is a SAR publication published by the Commandant, U. S. Coast Guard as a source of information concerning current and proposed procedures as well as new developments in SAR. Articles contained herein are non-record and non-directive.

WHAT BOAT IS THAT?

By CAPT W. J. Brogdon, USCG

You are briefing a coxswain prior to a daylight search for a 40 foot cabin cruiser, which failed to return to port last evening. The message says, "40 FT. PACEMAKER C/C AQUARIUS OF NEWPORT, WHITE HULL AND DECKHOUSE, BIMINI TOP, GREEN BOTTOM PAINT," and goes on to give the rest of the details of the case.

How can you make it easier to find this boat among the many of similar size and color, which you know will be in the search area? First, you need a better description. Does the boat have outriggers? A tuna tower? Radar? A bow pulpit? Radar? The presence or absence of these features gives the boat a distinctive appearance, and will save you a good deal of time by eliminating unlikely prospects.

Secondly, What does the boat look like? Many manufacturers build more than one model having the same overall length. In the case of Pacemaker, the 40 ft. sportfisherman has a completely different profile from the 40 ft. motor yacht. Find out which one you are looking for, and your job will be much easier.

Magazine advertisements and boat tests, and boat show literature, are extremely useful. So are the "buyer's guide" issues which come out early in the year. So read the magazines, hound the boat shows, and become familiar with the various models of boats. Some stations make up a loose-leaf folder with pictures of the popular boats.

Another good source of information is the paperback book Boatwatch edited by Max Averitt, and published by Charles Scribner's Sons, New York. (1979, $7.95, ISBN 0-684-16159-1) This book has drawings and data for over 1400 power and sail boats. Although it doesn't cover every make, it is valuable for the drawings and data on current *and* older model boats — the ones you may have trouble finding photographs of.

For best information, get a full description of the boat. Most likely, you'll start the gears in motion and then call the reporting source back for the details. *Don't hold up your initial action while you complete a lengthy check list.* This is particularly annoying to someone reporting a distress, and has caused numerous complaints in the past.

You get the basic information first: Name, Numbers, Type, Length, Rig, Colors of hull, decks, cabin, and trim, as well as the other items on your SAR Incident Check-off List. Then get the additional descriptive info., using the list below as a guide.

Manufacturer

Year built

Model (one or more of the following terms)

Sport Fisherman	Trawler
Double Cabin	Aft Cabin
Motor Yacht	Flying Bridge
Sedan	Flush Deck
Convertible	Houseboat
Express	

For Sailboats, be sure to get Class, Sail Numbers, and Sail color

Visible Equipment

Outriggers	Bow Pulpit
Radar	Tuna Tower
Bimini Top	Gin Pole
Dinghy	Liferaft
Bottom paint color	Boot top stripe

Many times the person reporting an overdue boat will not have a good description of it. Don't give up. The harbormaster, the owner of the boat in the next slip, or a friend usually is able to give a detailed list of equipment as well as the make and model. Seek out these people, study the photographs or drawings, look at a similar boat, and you will be very well equipped to brief that coxswain -- or search for the boat.

END OF THE SEA SICK BLUES

By CDR A. M. Steinman

Chief, Special Medical Operations Branch

Everyone has experienced sea-sickness at some time in his life, and most agree that little else makes you feel as bad. The pale, cold-sweaty, drowsy nausea that accompanies unrelenting dry heaves really puts a damper on your day. And although the common remedies such as fresh air, soda crackers, watching the horizon, and sucking on lemons may work for awhile, eventually the sea-sick blues usually win out. Even modern medicine has been remarkably unsuccessful in curing and preventing this age-old malady; medications like Dramamine or Meclizine are only partially effective, and both have side effects which leave you feeling drowsy.

But an end to Mal de Mer may be on the way. Recent medical research has shown that a combination of two common drugs is by far the most effective treatment available in preventing sea-sickness. These medications work much better than either Meclizine or Dramamine in Laboratory trials, but even more importantly, they work in the real world as well. A recent operational trial on ten Coast Guard air and boat crewmen riding a 44-foot MLB in heavy seas showed that no one who had taken the medications became sea-sick, whereas several of the other crewmen did. As for side effects of the drugs, only one of the crewmen taking medication noticed slight drowsiness. Similar operational tests on Navy and Air Force personnel showed the same results: The combination of these two medications provided a significant protection against sea-sickness.

The two drugs which work together so well (neither of which, incidentally, works by itself) are called promethazine (an antihistamine, commonly called Phenergan) and ephedrine (a common decongestant). For maximum effectiveness the medications should be taken one to two hours before getting underway, and at six hour intervals as needed thereafter. These medications should be available through your Group Medical Officer or Hospital Corpsman, and they have been added to the ship's Medical Allowance List. Commandant Instruction 6710 (series) contains more detailed information about these anti-motion sickness medications.

Coast Guard cutter personnel should have little problem taking the combination of the two drugs as recommended, one to two hours before getting underway or before getting into heavy seas. SAR boat crewmen, however, rarely have two hours advance notice of a SAR case. The medications will still work to some extent if taken immediately before getting underway, depending on how long it takes the boat to reach rough water. But SAR boat crewmen who are sensitive to sea-sickness should consider taking the medications throughout their duty days if the sea state and weather conditions make it likely that they will get sea-sick. Although taking any medication unnecessarily should be avoided, in this case it may be better to take the medication preventively rather than be incapacitated by sea-sickness on scene.

For further information about anti-motion sickness medication, contact Dr. Alan Steinman, Commandant (G-KOM-1), U.S. Coast Guard, Washington, D.C. 20593; FTS 472-5325.

MORE AID ON THE WAY FOR SEARCHERS

After a lengthy period of development, the Coast Guard issued new rules which will require boats to carry visual distress signals. The rules become effective on 1 January 1981. Therefore SAR personnel may expect that, during the coming year, more and more boats will become equipped with visual signals.

The rules require the signals on all boats 16 feet or more in length or any boat carrying six or less passengers. In this category, both day and night signals are required.

Boats less than 16 feet must only carry nightime signals, when operating at night.

The requirements apply to coastal waters of the United States --- coastal waters being defined as the Great Lakes and the territorial seas of the United States and the bays and sounds which empty into these waters. Rivers more than 2 miles wide at the mouth are included up to that point where the river narrows to 2 miles.

Among the approved signals for complying with the new rules are:

Day Only Signals

Floating Orange Smoke
Hand-held Orange Smoke
Orange flag with a black disc and square

Night Only Signals

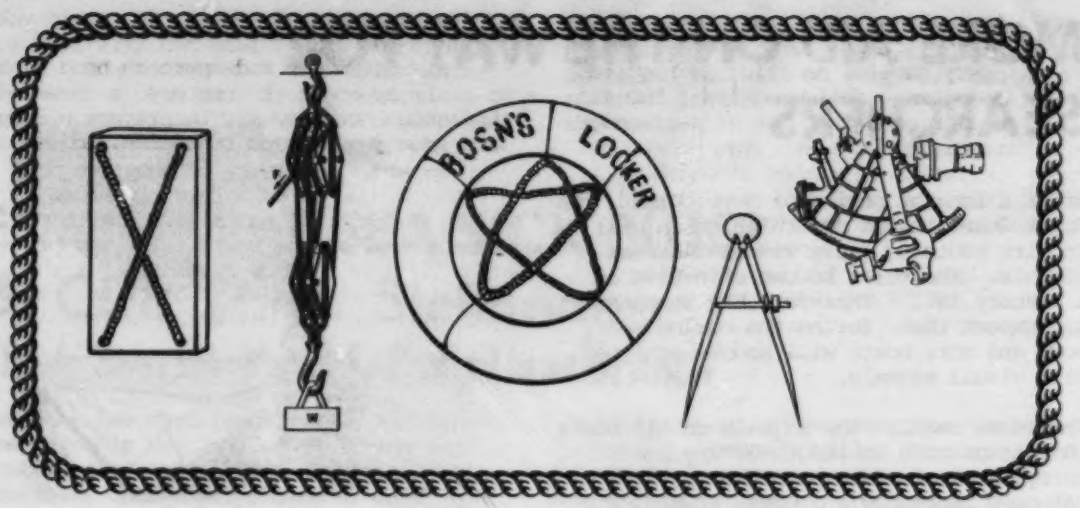
Electric Distress Light which automatically signals SOS.

Day and Night Signals

Pistol-Projected Parachute Red Flare
Hand-Held Rocket-Propelled Parachute Red Flare
Red Aerial Pyrotechnic Flare

Detailed information on the rules may be found in the Federal Register, Vol. 44, No. 243, Monday, 17 December 1979.

We're All in the Same Boat!
Suggestion Savings Benefit Everyone



HANDLING CHARACTERISTICS of the 41' UTB

1. Introduction. The 41' UTB is a V-bottom boat with a modified planing hull, constructed of aluminum and fiberglass. It is powered by twin diesel engines. When all systems are working properly, the 41' UTB can easily be operated by one person in the coxswain seat. Twin screws render the boat easily maneuverable; the experienced coxswain can steer, turn and dock this boat with minimal recourse to rudder controls. Like all boats, however, it is a product of compromises and contradictory effects. Utility boats are designed for speed in relatively smooth water. They are designed with wide transoms for working space and planing lift. Such features, necessary for normal missions, can easily be disadvantages in some situations. Use the positive features, but be aware of possible negative reactions and control them or turn them to your advantage.

2. Speed. The maximum speed of the 41' UTB is 25-27 knots, depending on engine tuning and operating conditions. However, you should never exceed 90% of your boat's capability during normal operations; extra power is the boat's main defense in most threatening situations. If you are at full throttle, you have already squandered half your resources, if an emergency should then arise.

3. Stopping. In an extreme situation, the boat can be stopped very quickly by moving the throttles directly from ahead to full astern. Tests in 45 feet of water showed the boat able to stop from full ahead , within a space of seventy feet, elapsed time approximately 3 to 4 seconds.

WARNING

NEVER USE THIS PROCEDURE EXCEPT IN A DIRE EMERGENCY. EACH TIME, SOME ENGINE AND GEAR DAMAGE IS LIKELY, AND PERSONAL INJURY IS POSSIBLE.

4. Weathervaning. The 41' UTB has a tendency to back into the wind, due to its high superstructure in the fore part. If you sit dead in the water, any breeze will cause the boat to pivot on its propellers until the bow points in the direction the wind is blowing.

5. Following Seas or Surf.

a. Very careful handling is required when running in a following sea. The 41' tends to slip down the back of seas and heel strongly; when stern seas exceed 8 feet, the rudder is rather sluggish. If at all possible, avoid running directly before a swell; quarter the seas. The boat's small well deck makes swamping much less likely than in earlier boats where the well deck included the engine spaces, but the possibility is not eliminated.

b. In waves with a wide, regular pattern, ride the back of the swell. Never let the boat ride on the front of a wave. The UTB's wide, flat stern is more buoyant than the bow and the boat may begin to surf; pushed along on the front of the wave, the boat's tendency will be to dig in at the bow (and pitchpole) or come broadside to the wave (and broach).

WARNING

AVOID BREAKING WAVES AND SURF. The 41' UTB will take a 75° list, far more than other UTB's. However once past this point, it will capsize. Any close, steep swells will test all your skills. The combination of a sluggish rudder in heavy stern seas, the sail effect of your superstructure, and irregular wave action can easily cause your stern to fall off at a critical moment, resulting in broaching. This boat is not self-righting.

c. In following seas, a planing boat such as the 41-footer should, where possible, travel as fast as the seas, to prevent seas breaking over the stern. Avoid jumping over crests, for your vision ahead is lost as the bow drops into the trough. If you have to jump a crest, open the throttle as you reach the crest of the wave, to dig in and raise the bow. Close the throttle as you pass the trough, to allow the next swell to lift you and pass more quickly.

6. Head Seas.

a. Slow down and approach head seas at a slight angle; be prepared to straighten out quickly, to prevent a large wave from pushing you broadside. Adjust your speed as necessary to keep the propellers in the water. This minimizes strain on the hull and allows you to maintain control of the boat; time your progress so that the bow rises to meet the swells. At maximum sea conditions, eight feet and over, the coxswain must maneuver constantly.

b. Use only enough power to break through the crest; then cut back power to let the boat fall on the back side of the swell. Increase speed as the next wave approaches, to repeat the cycle.

c. Avoid at all costs, "flying through" the crest; if you are airborne on the back of a wave, severe stresses are placed on the hull and crew as you land; serious injuries are likely. Neither you nor the boat can survive repeated flights of this kind.

7. Beam Seas. If your course is broadside to heavy swells, tack across at a slight angle, zigzag fashion. Make each tack as long as possible, adjusting for the safest, most comfortable angle. In turning back, allow the boat to lose headway, then wheel hard over and apply power. The less time your stern faces the waves, the better.

8. Ice Operations.

WARNING

AVOID ICE EXCEPT IN EMERGENCIES.

a. The UTB was not designed as an icebreaker, and the resulting hull stress will shorten the life of the boat, even if the hull is not penetrated.

b. IF YOU MUST enter an ice field, proceed very cautiously and never exceed 700 RPM. The boat will break ice up to 1 1/2" without much difficulty.

CAUTION

Operating in ice requires a crewman in the engine space; slush clogs sea strainers every 3-5 minutes, and they must be continuously shifted and cleaned.

c. The boat is slowed markedly by 2" ice, and will be stopped dead in the water by field ice over 3" thick. It should be noted that the only way to tell the difference between 1" ice and 4" ice is by "feel" or by looking at broken ice at the stern of the boat. Since 4" ice can easily cause severe hull damage, feel your way carefully if you must enter ice.

UTB COMPETITION AT ST. PETERSBURG

During the period 15-17 October 1979, Coast Guard Group St. Petersburg, Florida held their second annual UTB Competition. UTB's from several group units participated in the program which served to evaluate both the boats and their crews. Personnel, boat, boat outfit and engineering inspections coupled with written and practical exercises set the stage for the predicted log run which served as the culmination for the competition. CG 41452 from Station St. Petersburg was the winner with CG 41431 from Station Yankeetown coming in second. The competition was keen and all participants enjoyed the event.

LETTER TO THE EDITOR

Editor, ON SCENE

In the"BOSN's Locker"in ON SCENE, 5/6-79, the suggestion is made that Danforth anchors be modified to permit use of an anchor tripline by "all units which operate their boats where anchoring may be a problem..." First, is there any place where anchoring may not be a problem? It's not just coral or boulders, but wrecks, water logged tree trunks, somebody else's ground tackle, etc., which can snag your anchor. Beyond that, it is useful when setting a second anchor to know where the first one is; when anchoring in a crowded anchorage, to know where other vessel's anchors are; when getting underway to know where your own anchor is. To quote Knight's Modern Seamanship, "It is always good practice to make fast an anchor buoy to ...each anchor in making preparations for letting go."

CAPT J.L. Bender, USCGR (RET)

FROM THE 7th DISTRICT
Check List For CB Calls

As the result of a SAR Case Study, the 7th District distributed the CB Check List shown on the following page as the last page of a local Notice to Mariners. Group Miami also met with all local CB interests and provided them with the check list. During the case which was the subject of the SAR Case Study, the initial CB report provided insufficient information for search planning. Fortunately, the boat was found in spite of this.

SEVENTH COAST GUARD DISTRICT

CHECK LIST FOR "CB" RESCUE CALLS

DATE/TIME_____

REPORTING SOURCE

NAME_____

FCC CALL SIGN_____

OFFICIAL BOAT #_____

FREQUENCY (CHANNEL)_____

2. DESCRIPTION OF BOAT

NAME/NUMBER_____

TYPE_____

LENGTH_____

COLOR: HULL_____CABIN_____

DECK_____TRIM_____

SAIL #/COLOR_____

PROMINENT FEATURES: BOWSPRIT, OUTRIGGERS, ANTENNAS, FLYING BRIDGE, BOW RAIL, CANOPY, SWIM STEP, WIND SHIELD,

_____

PERSONS ON BOARD:

ADULT_____CHILDREN_____

NATURE OF DISTRESS

_____

4. LOCATION OF INCIDENT

_____

ADRIFT_____ANCHORED_____

5. OWNER/OPERATOR OF DISTRESS

NAME_____

ADDRESS_____

PHONE_____

6. SURVIVAL EQUIPMENT:

PFD'S	YES	NO
FLARES	YES	NO
FLASHLIGHT	YES	NO
RAFT AND COLOR	YES	NO
SKIFF	YES	NO
ANCHOR	YES	NO
SPOT LIGHT	YES	NO
RADAR REFLECTOR	YES	NO

7. IS ASSISTANCE BEING RENDERED?

BY WHOM_____

8. MISC INFO (CLOTHING, ELECTRONIC EQUIP.) ON SCENE WEATHER, CRUISING INFO (WHERE FROM, WHERE BOUND) SOMEONE ASHORE WITH INFO IN CASE OF LOST COMMS RELATIVE, FRIEND, NEXT OF KIN, ETC.

_____

_____

PASS TO DISTRESSED VESSEL: "IF YOU RECEIVE ASSISTANCE FROM ANOTHER SOURCE AND ARE SAFELY ON THE SHORE, PLEASE CALL THE NEAREST CG STATION COLLECT."
FOR "CB" OPERATOR RECEIVING DISTRESS CALL: PLEASE CALL THE NEAREST CG STATION TO YOU COLLECT.

CHARLESTON.....803-724-4382 ASK FOR COD
MAYPORT.....904-246-7341 ASK FOR COD
MIAMI.....305-672-2021 ASK FOR COD
KEY WEST.....305-296-2525 ASK FOR COD
ST. PETERSBURG.....813-893-3333 ASK FOR COD

SARSAT UPDATE

The Search and Rescue Satellite Demonstration Project (SARSAT) described in a previous issue, is well underway. The project centered at NASA Goddard Space Flight Center, Greenbelt, Maryland is being directed by a Program Steering Group made up of members from NASA, Department of Transportation (Coast Guard), Department of Defense (Air Force) and the National Oceanic and Atmospheric Administration (NOAA). An international flavor has been added with direct participation by Canada and France and a link-up with a somewhat similar effort in the Soviet Union. In this article we will try to update the information we published at an earlier date.

KEY ELEMENTS OF THE SYSTEM (See Figure 1)

Key elements of the system are:

1. Existing ELT/EPIRBs on 121.5/243 MHz.

2. An experimental ELT/EPIRB operating in the 406 to 406.1 MHz frequency band which was allocated for low power ELT/EPIRB-to-spacecraft communications by the World Aminis-trative Radio Conference in 1971.

3. A satellite-borne frequency translation repeater for both the existing and experimental ELT/EPIRB bands (121.5, 243, 406 MHz) which, in conjunction with a local user terminal (LUT), will afford regional coverage for alerting and position determination. This repeater will take the incoming signals from existing ELT/EPIRBs and the experimental 406 MHz device and send them directly back to any terminal within range.

4. Local User Terminals (LUTs), associated with key rescue coordination centers (RCCs) to receive the signals from the repeater described in 3 and process it for position information, using dopplar information.

5. A satellite-borne receiver and processor for the experimental 406 MHz ELT/EPIRB which will afford full-orbit coverage for alerting and position determination. This device will take signals from the experimental ELT/EPIRB anywhere in the world, process them for position information and store the information until it is dumped to the controlling ground station.

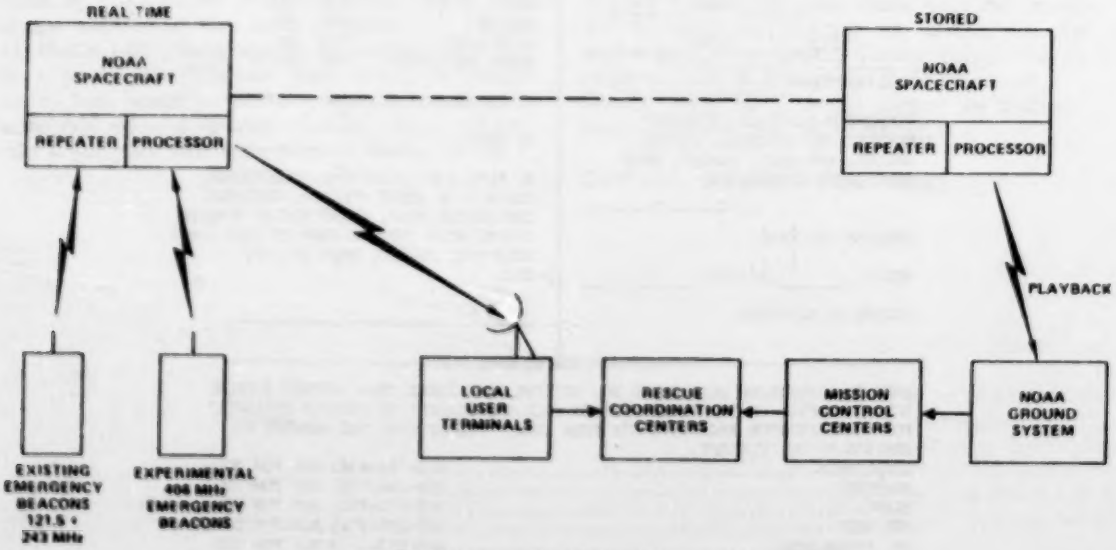


FIGURE 1 SARSAT SYSTEM

6. Spacecraft of the NOAA TIROS-N series which will carry the three-band repeater and the 406 MHz receiver/processor.

7. Mission Control Centers (MCCs) in the U.S., Canada and France for coordinating the flow of data.

8. The NOAA ground system which will provide spacecraft ephemeris data for LUT use and stored data from 406 MHz ELT/EPIRBs.

THE LOCAL COVERAGE (Figure 2)

Local coverage is that which will receive signals repeated directly back to an LUT by a spacecraft. If the spacecraft is in view of an LUT, the LUT receives the signal. Using time-lagged doppler information, the LUT calculates the ELT/EPIRB position. The alert and the position are forwarded to the appropriate RCC for action. During the search phase, the 121.5/243 MHz emissions from the ELT/EPIRB can be used for homing.

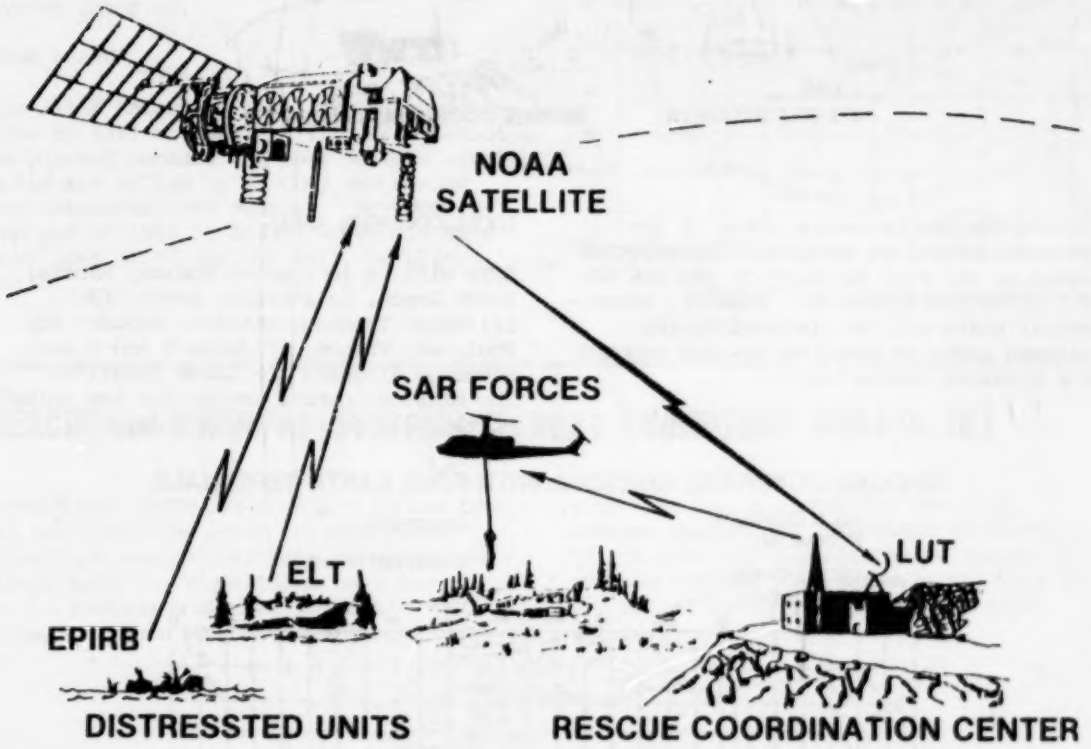


FIGURE 2 LOCAL COVERAGE

FULL EARTH COVERAGE (Figure 3)

Full earth coverage can only be achieved with the experimental 406 MHz ELT/EPIRB. This device transmits a relatively strong (about 5 watts) signal which lasts about 1/2 second and is repeated about every 50 seconds. The signal includes an identification of the craft in trouble and may also show the kind of trouble. In the satellite the signal is processed to compute the position; then the information is stored. When the satellite next passes over the NOAA Command and Data Acquisition (CDA) station, the information is dumped along with weather data.

READEX FICHE

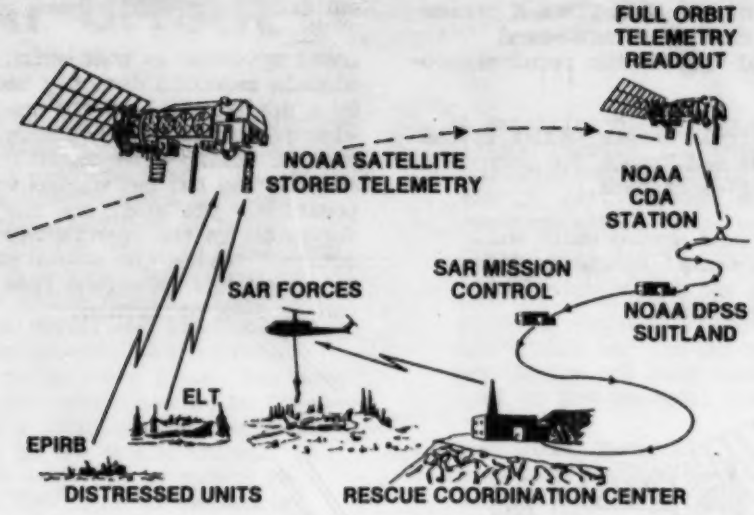


FIGURE 3 FULL EARTH COVERAGE

During the demonstration phase of the project, no actual cases will be expected since no one will be carrying the 406 MHz ELT/EPIRB operationally. However, experimental units will be operated during planned tests in order to try the concept for possible future use.

LOCAL COVERAGE AREAS

LUTs will be located at Kodiak, Alaska; Point Reyes, California; Scott AFB, Illinois; Trenton, Ontario, Canada; and Toulouse, France. Figures 4 and 5 are coverage diagrams for these locations. The Mission Control Center for the United States will be located at Scott AFB.

GROUND COVERAGE CONTOUR WITH FOUR EARTH TERMINALS

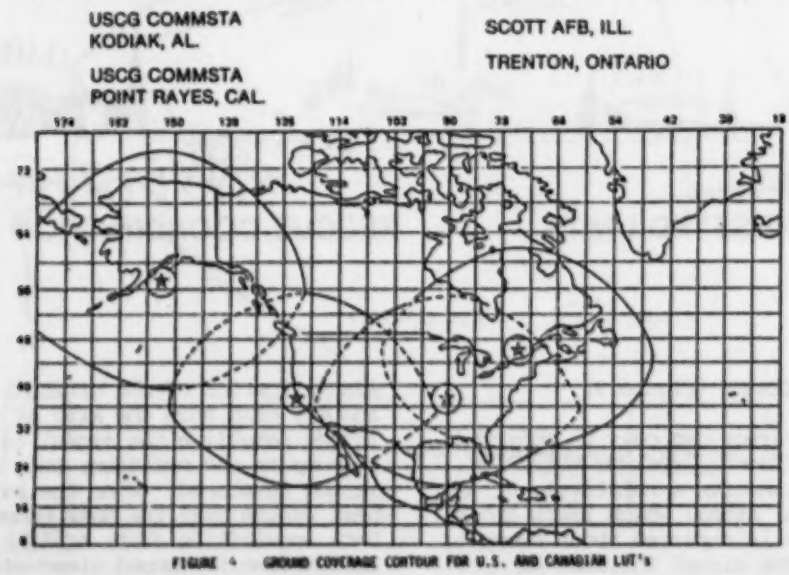


FIGURE 4 GROUND COVERAGE CONTOUR FOR U.S. AND CANADIAN LUT's

USSR SYSTEM

The SARSAT partners -- the U.S., Canada, and France -- have been working closely with agencies of the Soviet Union who are planning a somewhat similar system called COSPAS. The objective is to make it possible for each system to use the other. This would double the number of useful satellites during the demonstration phase to a maximum of four. Every satellite added to the galaxy decreases the waiting time for the local coverage system and gives a broader base on which to judge the need to proceed with an operational system later on.

TIME FRAME

The first launching will take place sometime in 1981 or 1982. A firm date cannot be planned because the host weather satellites are called up as they are needed for meteorological reasons. However, by the end of 1982 at least, we should have some idea of if and how well the system works.

Search and Rescue Satellite System
Ground Coverage Contour with One Earth Terminal
Toulouse, France

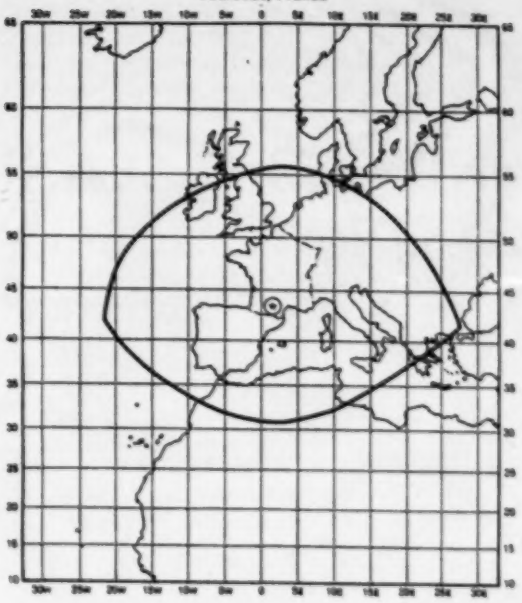


FIGURE 5 GROUND COVERAGE CONTOUR FOR FRENCH LUT

RESCUE and SURVIVAL SYSTEMS MANUAL (COMDTINST M10470.10)

COMMANDANT INSTRUCTION M10470.10 has been in the field for about a year. Some excellent suggestions have been received. Along with the suggestions have been calls stating that some units have not received their copy of the manual. If your unit has not received its copy address request to COMMANDANT (G-OSR-4). If you have any suggestions or questions you can use the post cards in the back of the manual or contact CWO MANESS (FTS) 426-1918.

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C	5	3		3	1	1	1	1	5	1			1	1	2	1		1	1	2	1		1			
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DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

Issue No. 2-80

TD 5.24:

ON SCENE
THE NATIONAL MARITIME SAR REVIEW

EMERGENCY COMMUNICATION UNITS

Some SAR personnel may be unaware of the available emergency communication centers which can be air lifted into an area in need of such service. The Coast Guard has four units which use terrestrial communications and the Air Force has three, one of which includes satellite communications via the experimental ATS-3 satellite.

COAST GUARD UNITS

The Coast Guard has four Transportable Communications Centrals (TCC) with four Dodge Model B-300 "camper" truck/tow vehicles. A TCC can provide complete facilities for point-to-point, ground-to-air, ship-to-shore, and unit-to-unit communications in the HF, VHF(AM and FM), and UHF radio frequency bands. The TCC consists of an air conditioned equipment shelter/trailer with installed electronic equipment and one portable gasoline generator set and it is transported with all operating equipment mounted in normal operating positions except antennas and generator. The TCC can also use 230 volt commercial power if that is available. The Dodge campers are used as tow vehicles and crew quarters for the TCC. They have a basic communications panel of CB and FM equipment.

The TCC may provide support on all occasions where temporary communication facilities are required. Examples are: (1) SAR operations, (2) flood and hurricane relief, (3) law enforcement incidents, (4) marine regattas, (5) replacement for disaster disabled communication facilities, and (6) pollution response.

The two East Coast TCCs are at CGAS CLEARWATER. The most extensive use ever of these East Coast units was on a ten day deployment to the Johnstown, PA floods in 1977. In recent years they have most often been called out for pollution cases. In November 1977, a mobile command post was established at Avon, NC for the BARGE MORANIA 200 asphalt spill. In 1979, a TCC was in Corpus Christi, TX for an extended period where

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One of four Coast Guard TCC's

the Coast Guard monitored the spread of crude oil from the Pemex well blowout in the Gulf of Campeche.

One of the West Coast Units, both of which are kept at CGAS SACRAMENTO, was sent to Riverside County, CA in March of this year. The Pacific Strike Team called for the TCC and operated it at their command post where the Stringfellow Hazardous Waste Site was overflowing due to heavy rains and the down stream communities were threatened with receiving the run-off. Most radiomen going through school at Petaluma see one of the West Coast units demonstrated as part of their training.

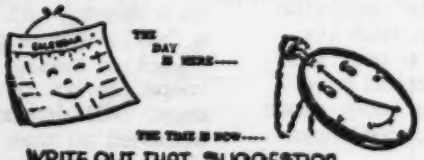
AIR FORCE UNITS

The U.S. Air Force has three communication jeeps, one at March AFB, one at McClellan AFB and one at Selfridge AFB. All have HF, UHF and VHF capability. In addition, the one at March AFB has capability for communications via the experimental ATS-3 satellite. The satellite terminal can reach difficult locations and provide multiple communication channels out of an area where normal line of sight transmissions would not work and HF equipment would be too cumbersome. The ATS-3 satellite is operated by NASA and is positioned in a geosynchronous orbit 22,300 miles up at 105 degrees west. The field of view of its antenna is approximately plus or minus 80 degrees north/south/east/west. This translates into coverage which extends virtually from pole to pole and from Midway Island to the Azores.

OBTAINING THE UNITS

Any of these air deliverable emergency communication packages can be obtained for SAR or related purposes on request as follows:

USCG TCCs West Coast	RCC San Francisco
USCG TCCs East Coast	RCC New York
USAF Units	USAF RCC SCOTT AFB



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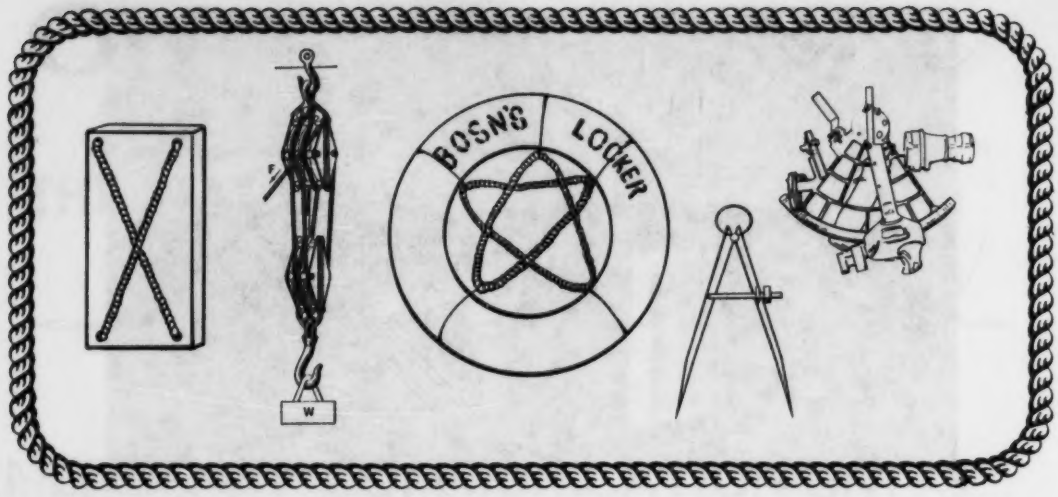


PITCHPOLING IN A 44' MOTOR LIFEBOAT

Recently, a 44' MLB inbound on a bar on surf drills pitchpoled and caused severe damage to the boat. The wind at the time was NE at 05-10 KTS, seas 20-25 feet, and the tide was ebbing at less than 1 kt. The coxswain, a qualified Surfman was attempting to show his crew how to use a drogue for entering a breaking inlet. This drogue was made out of nylon webbing and the manufacturer is unknown to ON SCENE. As the boat was making headway inbound, the drogue was deployed. It did not catch at first and the boat continued to make headway. The drogue held at first while the coxswain still held power on, but its line parted unexpectedly sending the 44' MLB over the top of the wave in front of the boat. The boat then surfed down the front of the wave, and buried its stem in the bottom. The boat then proceeded to pitchpole, and finally righted itself facing seaward. The crew was strapped in, but only the coxswain was wearing a safety helmet. Besides damage to the hull, superstructure and electronics, the reduction gear from one engine was torn from its mount and total damage the the boat was about $26,000. Although it could have been much worce, the crew was lucky since the only injuries were a fractured nose and a sprained ankle.

LESSONS TO BE LEARNED

There are several lessons to be learned from this accident. From the standpoint of safety, ALL crewmen should have been wearing safety helmets, not just the coxswain. This is a cardinal rule whenever working in the surf or crossing breaking bars or inlets. Since this boat was only designed to operate safely in surf no larger than 20 feet, the coxswain should not have been training in 20-25 foot surf. Training limits on surf conditions are currently being formulated, with 15 feet being the maximum permissable surf conditions for training when the coxswain is a qualified Surfman in accordance with Part D, CG-313. If the coxswain is not Surfman qualified the maximum surf conditions for training will be 10 feet.

Another lesson is when not to use a drogue. A drogue is basically a sea anchor which has traditionally been used for heaving to in a seaway. It enables a boat to maintain a fairly stable position by reducing the effect of leeway or vessed drift, and it keeps the bow of the boat heading into the seas. All drogues should have a tripline attached so that they can be inverted whenever necessary. While the use of a

drogue or sea anchor in a seaway is one thing, its use to cross breaking inlets or to work in the surf is a different matter. The use of a drogue towed astern in surf requires a crewman experienced in drogue handling to tend the rode (all the gear, taken collectively, that lies between a boat and her anchor) and the tripline. The drogue must be allowed to fill and thus create a drag at exactly the right moment, when the boat speeds up as the crest overtakes her. At this time, there is a tremendous strain on the rode, and after the crest is passed, it is necessary to spill the drogue with the special tripping line, the handling of which, together with the rode requires a great deal of skill and practice. Improperly handled, a drogue can spin and twist its lines, dive and dredge the bottom, porpoise, hamper steering or even foul the propeller(s). Use of a drogue for working in surf is not taught in the Coast Guard, primarily because our surf boats are designed to operate without the use of a drogue. The shape of the hull of the 44' MLB, its' propellers, rudders, and clutches all provide the control necessary to operate in the surf, and therefore, the use of a drogue is not necessary. One use of a drogue or sea anchor that is encouraged is to steady a tow that wants to yaw, particularly when steaming through confined areas. A drogue is streamed astern of the vessel being towed which tends to keep the towed vessel in line.

BOATSWAIN MATE ASSIGNMENT POLICY

Non-rated personnel who are assigned to BM"A" School Yorktown, VA will be returned to their parent unit upon request by both the parent unit and the individual, providing an authorized billet is available. The O-in-C/CO should contact the BM Rating Manager in advance and discuss projected vacant billets. A followup rapidraft letter to Commandant PE-2 is also required for record purposes. A CG4526 should be forwarded from BM"A" school by the individual requesting the parent unit and referring to the rapidraft letter. Every effort will be made under this arrangement to return the individual to his parent unit when a billet is available

We're All In the Same Boat!

Suggestion Savings Benefit Everyone

COASTAL TYPE EPIRB

A new Emergency Position Indicating Radio Beacon (EPIRB) for coastal use will be on the market for the coming boating season. Unlike the EPIRB for offshore purposes the new EPIRB will transmit on VHF-FM. It sends a 1.5 second alert signal on Channel 16 to call attention to a distress incident. It then shifts to Channel 15 and transmits a 15 second signal to allow for homing or direction finding. These signals repeat periodically. They are easily recognizable since they consist of alternating tones of 2200 Hz and 1300 Hz, each 250 milliseconds in lenth. If you have heard a tape of the radio telephone two-tone alarm signal for use on 2182 Khz, you've heard this signal, because it is the same.

This EPIRB is designed for use within 20 miles of the coast, taking advantage of the Coast Guard's network of VHF-FM radio stations. Since VHF-FM radios are in such wide use by Coast Guard units, all personnel standing radio watches or operating ships, boats or aircraft need to be able to recognize the EPIRB when it transmits. Commandant Notice 16123 of 23 January 1980 is the effective directive The instructions contained in the directive will soon be incorporated into the Coast Guard Communications Manual.

The accompanying Table 1 gives the signal format. The accompanying Figure 1 gives the signal characteristics. If you are guarding Channel 16 and hear the Alerting signal you should immediately switch to Channel 15. When the signal comes on Channel 15, you should take a bearing. Note from Table 1 that the signal will go thru Cycle 1, cycle 2, cycle 3 and cycle 4 in succession. Note too that each successive cycle is longer than the previous one because it has longer silent periods in it. The length of these silent periods will tell you which cycle the EPIRB is in.

The cosatal EPIRB is officially known as a Class C EPIRB.

Characteristic \ Cycle		1	2	3	4
Period 1	Channel No. 16 (Sec)	1.5	1.5	1.5	1.5
Period 2	Channel No. 15 (Sec)	15.0	15.0	15.0	15.0
Period 3	Channel No. 16 (Sec)	1.5	1.5	1.5	1.5
Period 4	No Transmission(Sec)	40.5	78.5	154.5	306.5
Period 5	Channel No. 15 (Sec)	15.0	15.0	15.0	15.0
Period 6	No Transmission(Sec)	40.5	78.5	154.5	306.5
Total Time for 1 sequence (Sec)		114.0	190.0	342.0	646.0
Duration of Cycle (Hrs)		0.51	1.69	6.08	15.72
Number of Sequences/Cycle		16.0	32.0	64.0	87.6

Table 1. EPIRB signal format

	Ch 16	Ch 15	Ch 16	No Transmission	Ch 15	No Transmission	Ch 16
Period	1	2	3	4	5	6	1
Time in Seconds	1.5	15	1.5	*	15	*	1.5

*Determine length of period Nos. 4 and 6 from Table No. 1 for each of four cycles.

Figure 1. EPIRB signal characteristic

The Liferaft

PRAYER:

Editors Note: A well known observation made in World War II was "There are no atheists in foxholes". This is probably true for liferafts also, as the following indicates.

Men at hazard at sea find strength in prayer. Religious men of all faiths seek communion with God from the start of their ordeal, others only when danger threatens.

Man Overboard. South Pacific.

Douglas Wardrop, who was in the water for nine hours, reported "Well God, I'm in your hands", I thought "In you I put my trust for better or worse. But if you don't mind me injecting an idea of my own, I just don't believe my time is up". He thought he saw a shark "Lord, if it's your will for me to go, make it quick please". He was schocked by an electric eel, which kept circling him "God, I've been told that everything you make in this world has some purpose to fulfill, but surely nothing so mean and vicious as this creature". After a while the eel disappeared. A ship appeared "Please God don't let them come so close and not see me. I'm not afraid to die, but don't add torment to it".

Man Overboard. North Atlantic.

Franz Strycharczyk, sixteen hours in water. A ship passed close to him after four hours, "he prayed and was very frightened.

Ditched Airman. Gulf of Mexico.

Paul Shook reported "I noticed dark clouds ahead. I observed rain falling some distance from me and prayed that it would come my way".

Sailing boat. Sulu Sea.

Albert Klestadt, at start of single handed voyage in enemy occupied waters wrote "Prayed in the morning and sailed out with the ebbing tide. Am alone now and in his hands, but cannot be better cared for".

Sailing boat. Arafura Sea.

Albert Klestadt threatened with mutiny by

some of his crew "I often prayed for Grace, for guidance and for my sense of humor not to desert me. Invariably my prayers were answered...".

Liferaft. North Pacific.

Third day. An aircraft flew over. Ito Harcco reported "I started to pray. I called all the Japanese Gods. I called them by their names. I asked them to guide the plane to us".

Inflatable Raft. Bay of Bengal.

Seventh day. Following suicide of the First Lieutenant, Lt Ba Thaw reported "We all prayed for the Lieutenant. He was a Buddhist. Somebody chanted a piece of Buddhist scripture. After that we had prayers every day between 5 p.m. and 6 p.m.".

Liferaft. Indian Ocean.

Seventh day. Kenneth Cooke reported "One of us heard Little John praying. He humbly asked the apprentice to pray for us all... all joined in the request and the day was finished with heartfelt prayer from all aboard the two rafts. I realize now that it was a thing we had all wanted and each had been too shy to suggest - it was a good thing and every mind was easier the next morning because of it. I closed my eyes to pray for myself".

Lifeboat. South Atlantic.

Tenth day. Frank West reported"... led the Sikhs in their daily devotions. They were carried out at great length, at no set time, but usually in the evening... We certainly needed all the prayer". Twelfth day "Praying seems to come easier when one is in trouble. It had become customary to have evening prayer...".

Rowing boat. North Atlantic.

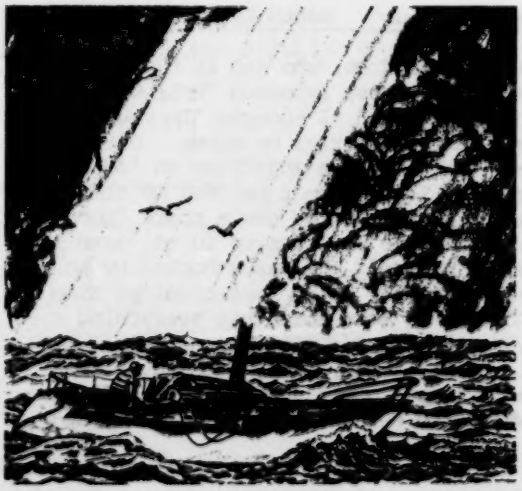
Eleventh day, during a hurricane, John Ridgway recorded " I was frightened all the time and so was Chay. Both of us prayed". Fifty sixth day. Chay Blyth recorded "... Sleep then prayer. God comes to you out there. You have three feet on each side of you then death.

Liferaft. Indian Ocean.

Twentieth day. Ensio Riira reported"... I fall asleep praying that we would have another storm, and my prayers were answered". Thirty first day. "I remembered the prayers I said for Ericsson when he went over the raft to the sharks and now I wanted to say them for myself".

Sailing boat. South Pacific.

John Caldwell, after his boat being dismasted, recorded "Then an urge struck me that penetrated to my very warp and weft, so I followed it,... I bent to my knees reluctantly... And now, lost, foodless, without instruments, I humbly bent my knees to the deck and laid my folded hands upon the cabin. With eyes raised I read off a most hearfelt forgiveness and piteous appeal to 'Pagan's' real Captain".



Sailing boat. North Atlantic.

Alec Rose wrote of the 1964 single handed transatlantic race, "One of the most horrible experiences came towards the end of this voyage - a whole week of dense fog on the New foundland Bank... I prayed, and I learned how not to worry too deeply, yet be prepared for the worst. I am not a very devout or good Christian, just an ordinary Anglican who ought to go to church more often. But I think it is the sea that has really made me know that their is a God.

Ship's boat. South Pacific.

7th day, Captain Bligh recorded " Served a few broken pieces of bread-fruit for supper, and performed prayers".

Sailing boat. Indian Ocean.

It was decided to cut four feet off the mast to make the boat more manageable. The mast was unstepped, cut and shaped without difficulty, but could not be put back in place. C.O. Jennings recorded "Sitting back, gasping and trembling, I thought of the previous eighteen days of starving and looked at my swollen-eye friend's wasted body, cursed myself for all the fools in the world for having agreed to unship the mast... For three solid hours we tried to do the impossible... His (Hall's) mouth opened and in a hardly audible voice he whispered 'Why not say a prayer, Skipper?' Wondering if I understood right, I looked at him in dumb amazement while he nodded his head slowly to show he understood the peculiarity of his request... I began to pray "Almighty God, help us and give us strength to restep this mast: we've done all we can, and now we ask for Divine assistance, for Jesus Christ's sake, Amen'... I looked at the rising sea and silently supplemented my spoken appeal to the Divine Creator for his help. The prayer lasted about half a minute, and with a 'Now let's try' to my compainion, we picked up the mast as though it weighed ounces instead of pounds and re-stepped it. Hall's red beard opened in an unbelieving smile, and my grey one followed suit, as we automatically turned to face the wide expanse of ocean to mutter our very grateful thanks".

* * *

Prayer relieves stress and LONELINESS and helps to maintain sanity.

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B		5	25		25	10	40	10	3	2	2	1	2	10	1	1	1		1	1						
C	5	3		3	1	1	1	1	5	1			1	1	2	1		1	1	2	1		1			
D	1			1			1			1	1	2		1	1		1			2	2	2		2	1	1
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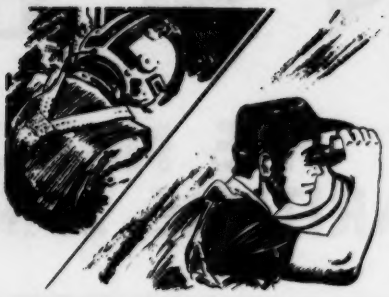


MEDEVAC Report Forms (CG-5214)

By CDR A. M. Steinman
Chief, Special Medical Operations Branch

The MEDEVAC Report, which you EMTs and HMs have been sending me since March of this year, have proved extremely useful in letting us in Headquarters know what kind of cases you're treating and how well your're doing as emergency medical personnel. Believe it or not, before the MEDEVAC Report Form was published, the Coast Guard had no good way of counting or evaluating the types of MEDEVACs or the kind of treatment given by EMTs and hospital corpsmen. Commandant Instruction 16135.3 dated 14 April 80 now requires that responding medical personnel (EMTs, HMs, physicians assistants and physicians) fill out a MEDIVAC Report on each patient handled in a SAR case. The first report officially filed was from MK2 John SPENCER of CGS Stillpond, MD on March 3, 1980. Since then, I have received 127 more.

In looking at all the data sent in, I am impressed with the variety of medical problems handled and with the quality of medical care given. Of the 128 cases reviewed, 90 were from EMTs and 38 were from HMs. 80 were from Coast Guard stations, 36 from air stations, and 12 were from patrol boats or cutters. There were 62 cases of trauma (ranging from simple soft tissue injuries to multiple open fractures and head injuries), 15 cases of heart problems, 6 cases of respiratory difficulty, 7 cases of strokes or seizures, 10 cases of abdominal problems, 10 hypothermia cases, 1 near-drowning, 1 case of insulin reaction, and 16 miscellaneous problems. 8 patients required CPR, 27 required oxygen, and 57 required splinting or the application of dressings and bandages. 24 cases required only mointering of the patient and transportation. There were 6 cases in which lives were saved as a direct result of the EMT's or HM's treatment, and there were 21 other cases in which the medical treatment prevented the patient from getting worse or suffering more severe injuries. 6 of the cases involved emergency care to Coast Guard personnel (including one of the lives saved!).

ON SCENE is a SAR publication published by the Commandant, U. S. Coast Guard as a source of information concerning current and proposed procedures as well as new developments in SAR. Articles contained herein are non-record and non-directive.

There are three good reasons why you should take care when filling out the MEDVAC Report form. First, it serves as a record of what you did for the patient and in what condition you delivered him. Second, the form serves as an aid in performing your secondary survey and as a reminder to frequently monitor the patient's vital signs. Finally, it allows us to evaluate the number and types of MEDEVACs performed, so we can modify the curricula at the EMT and HM schools (if necessary) and so we can provide you with better medical equipment to do the job. As some of you know, I sometimes call your station to discuss a particular case with you. Usually it's to complement you on a case well-handled; sometimes it's to get more information about the case, particularly if it looks like you saved the patient's life; sometimes it's to suggest different ways in which you might have handled the patient. In the process I find out what problems you might be having with the medical gear, keeping up with new information in medical care, etc.

Most of you are filling out the form correctly, since the blanks on the form are pretty much self-explanatory. The first copy of the form should go with the patient to the ambulance or hospital. This allows the hospital to know how the patient did before he arrived, what was happening to his vital signs, the nature and extent of his injuries, etc. The second copy is kept at your station for record keeping purposes. The third copy (already stamped and addressed) is sent to me; merely fold the form in half, tape or staple the bottom edge, and drop it in the mail.

A few items on the form need to be explained so we can standardize the information throughout the Coast Guard.

1) Rescue Vehicle - Always fill in this blank; use the number of your boat (e.g. CG 41448), the name of your vessel (e.g. CGC POINT ARENA) the type and number of aircraft), (e.g. HH3F 1430), or state the type of motor vehicle used. If you respond to a case, treat the patient but don't MEDEVAC him, state "none" in this blank and explain in the "Remarks" section.

MEDEVAC REPORT

☒ Male ☐ Female Age 30 Date 18 May 80 Rescue Vehicle CG 41360

Name John Doe Nature of Emergency Fall down ship's ladder

Location 55 miles E. of Bucksport Previous Illness None Medication None

Allergies None Inlet Physician ? Condition on Delivery Satisfactory

Delivered to Point Pleasant Hosp. Remarks Pt. had little blood loss from fracture

PHYSICAL FINDINGS:

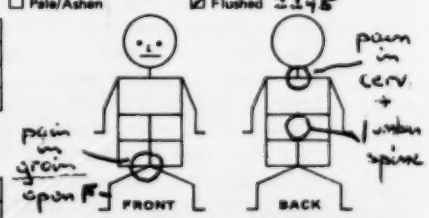
STATE OF CONSCIOUSNESS

	ALERT	CONSCIOUS BUT CONFUSED	UNCONSCIOUS, RESPONSIVE	UNCONSCIOUS, UNRESPONSIVE
Time	2245			
Time	0030			
Time	0145			
Time	0250			

SKIN COLOR

☒ Normal 0030 ☐ Cyanotic

☐ Pale/Ashen ☒ Flushed 2245



F –fracture H–hemorrhage
B –burns L–laceration
TK–tourniquet S–soft tissue injury

PUPILS

	EQUAL & REACTIVE	UNEQUAL	CONSTRICTED	DILATED & UNREACTIVE
Time	2245			
Time	0030			
Time	0145	slow to react and lack-lustre		
Time	0250			

VITAL SIGNS

TIME	PULSE	RESPIRATION NO.	RESPIRATION QUALITY	BLOOD PRESSURE
2245	52	17	occ pain	110 by palpation
0030	80	23	with	120 "
0145	84	24	shallow	122 "
0250	78	26	breaths	120 "

CHECK CARE GIVEN

☐ Airway Cleared	☐ MAST
☐ Airway Inserted	☐ CPR
☒ Cervical Collar	☐ O.B.
☐ Esoph. Airway	☐ Suction
☐ Transportation	☒ Dressings
☐ Tourniquet	☒ Splinting
☐ Oxygen (lpm)	☐ Scoop Stretcher
☐ Bag Mask	☐ Traction Splinting

by blankets

EMT SIGNATURE BM2 Joseph Fortcheu

DUTY STATION USCG Station Bucksport, Bucksport Light, ME

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2) Location - A general location is acceptable (e.g. Columbia River bar). Please don't use chart coordinates; I don't have all of your charts!

3) Nature of Emergency - Use this blank to explain why you were called to MEDEVAC the patient or to explain what happened to the patient (e.g. patient fell down ship's ladder; or chest pains - possible heart attack). Don:t use this space to describe your physical findings - use the stickman for that.

4) Condition on Delivery - Use either "good," satisfactory," or "serious".

5) Delivered to - Use this blank to describe who took over care of the patient from you (e.g. civilian ambulance, USN ambulance, etc) or where you dropped the patient off (e.g. Good Samaritan Hospital).

6) Remarks - Use this space to provide any additional information you feel is important about the patient. You can also use this space to describe any difficulties you had with equipment, treatment, etc., or to described any complications that developed while the patient was under your care. You can also use it to describe any problems you had with the rescue itself (e.g. heavy seas, difficulty hoisting, etc.) If you need more space for your remarks, and the remarks aren't necessary for either the hospital or your station's NJ. records, use the back of the third (stamped and addressed) copy. Or feel free to use any available blank space on the form.

7) State of Consiousness - Fill in the times in the appropriate spaces. This information is important, particularly for patients with head injuries, since changes in levels of consciousness are very significant.

8) Pupils - same as with state of consciousness.

9) Vital signs - This information is most important! Record the time and the result of each of the measurements made. For hypothermia patients, be sure to record the rectal temperature (or less usefully oral temperature), using the low-reading thermometer from the splint and bandage bag, in the blank space next to the blood pressure recordings.

10) Stickman - Indicate the sites of injury on the stickman using the initials listed. If a patient only has pain in a certain area, circle that area and write "pain". For burns, indicate whether the severity is "1st", "2nd", or "3rd" degree.

11) Check Care Given - These items are self-explantory. Feel free to add your comments as necessary to indicate the type of treatment given.

12) EMT (or HM) Signature - Always fill out this blank; indicate your grade and name (e.g. BM3 John Doe), and please make it legible.

Here is a sample of a correctly filled out MEDEVAC Report Form. Incidentally, it is based on (with some modifications) an actual case from CGS Barnegat, Light, NJ.

Two final thoughts - I strongly suggest you read Commandant Instruction 16135.3 titled "Emergency Medical Technicians in U. S. Coast Guard SAR Operations", since it addresses the roll of HMs and EMTs on SAR cases. Also it tells you how to obtain more MEDEVAC Report Forms. If you need some forms ASAP, you can obtain them by calling CWO Sam MANESS COMDT (G-OSR-4) at FTS 426-1918.

SPECIAL PURPOSE AIRCRAFT AS A SAR AID

Paragraphs 337 and 349 of the National SAR Manual discuss special purpose aircraft operated by the Air Force and Navy which might be useful in SAR missions if available. Not listed are some which have recently demonstrated an exceptional SAR capability or which have recently come to our attention. Information on these is supplied by this article.

AIR FORCE E-3 and NAVY E-2 AIRCRAFT

During a recent SAR case, the exceptional radar on an Air Force E-3 aircraft was put to good use. A Coast Guard search aircraft arrived on scene and began searching for a merchant vessel which had been reported sinking with the crew abandoning ship. Shortly afterwards the Coast Guard aircraft was contacted by a U.S. Air Force E-3 type aircraft, a type which is used for airborne warning and control purposes. The E-3 volunteered to assist in the search. With its outstanding capability, the E-3 was able to acquire both the Coast Guard search aircraft and surface targets on his radar and, by vectoring the Coast Guard aircraft from target to target, made it possible to investigate all surface contacts within a 75 mile radius of datum in the space of an hour and a half. Although the distress was later evaluated as a false alarm, the instance did demonstrate the outstanding capability of the E-3 aircraft in helping to detect & identify surface targets in a very short time. The Air Station noted in its narrative account that it has had occasion to work with Navy E-2 aircraft as well which have essentially the same radar capabilities and that they have found them to be an extremely useful tool. They further noted that the E-2 radar is designed to pick up very small surface

(continued on page 10)

A WORLD-WIDE SAR COMMUNICATIONS NETWORK

An international communications network, which can be used for SAR, exists today among those countries which are members of the International Civil Aviation Organization. The network is designed primarily for the safety of air navigation. Ordinarily this network serves the functions of the Air Traffic Services. However, it is also intended for use for international distress, urgency and SAR communications. All SAR Coordinators and their staffs who may become involved in international SAR activities should be aware of this network and how it can serve them.

The network is known in general as the Aeronautical Fixed Service. It is made up of two components: direct speech circuits, and teletype circuits which are commonly known as the Aeronautical Fixed Telecommunication Network (AFTN).

VOICE NETWORK

Direct speech circuits are used mainly for air traffic control. They usually extend from one Area Control Center to another, although sometimes they may link up to another type of air traffic control facility, such as a control tower. Since RCCs involved in international SAR are usually connected by a voice circuit to the Area Control Center serving their area, it is easy to see how the RCC Controller can relay voice messages through the Air Traffic Controller over these international voice circuits. A quick look at the circuits in any region can be obtained by entering the Air Navigation Plan for the region and consulting the charts and tables under the communications section.

TELETYPE NETWORK

The AFTN is a world-wide teletype network linked together by automatic, semi-automatic and torn-tape relay stations. SAR Coordinators whose RCCs require a significant amount of international hard-copy SAR communications should consider installing a direct drop into the AFTN. For those RCCs with lesser international communications needs, a pony loop into the FAA's nearest AFTN outlet may be sufficient. For those RCCs with little international traffic, arrangements with the FAA can probably be made to handle this without any teletype drop. Distress messages and distress traffic on the AFTN comprise those messages sent by mobile stations reporting that they are threatened by grave and imminent danger and all other messages relative to the immediate assistance required by the mobile station in distress. Urgency messages on the AFTN comprise messages concerning the safety of a ship, aircraft or other vehicles or of some person on board or within sight. It is easy to see that these categories cover all messages which would be required for SAR purposes. SAR personnel should realize that the AFTN provides them with a hard copy world-wide SAR communications network. As with the direct speech circuits, a quick look at the AFTN circuits in any region can be obtained by entering the Air Navigation Plan for the region, again consulting the charts and tables under the communications section.

PROCEDURES

General procedures for the aeronautical Fixed Service and specific procedures for the AFTN are found in Volume II of Annex 10 to the Convention on International Civil Aviation. With a working knowledge of the international direct speech circuits and the AFTN, SAR Coordinators, Chiefs of SAR Branches and RCC Controllers will have available to them a potent tool for coordinating SAR activities with the international community. Communications personnel, where appropriate, should be trained in the detailed procedures for using the AFTN for the transmission of SAR messages.

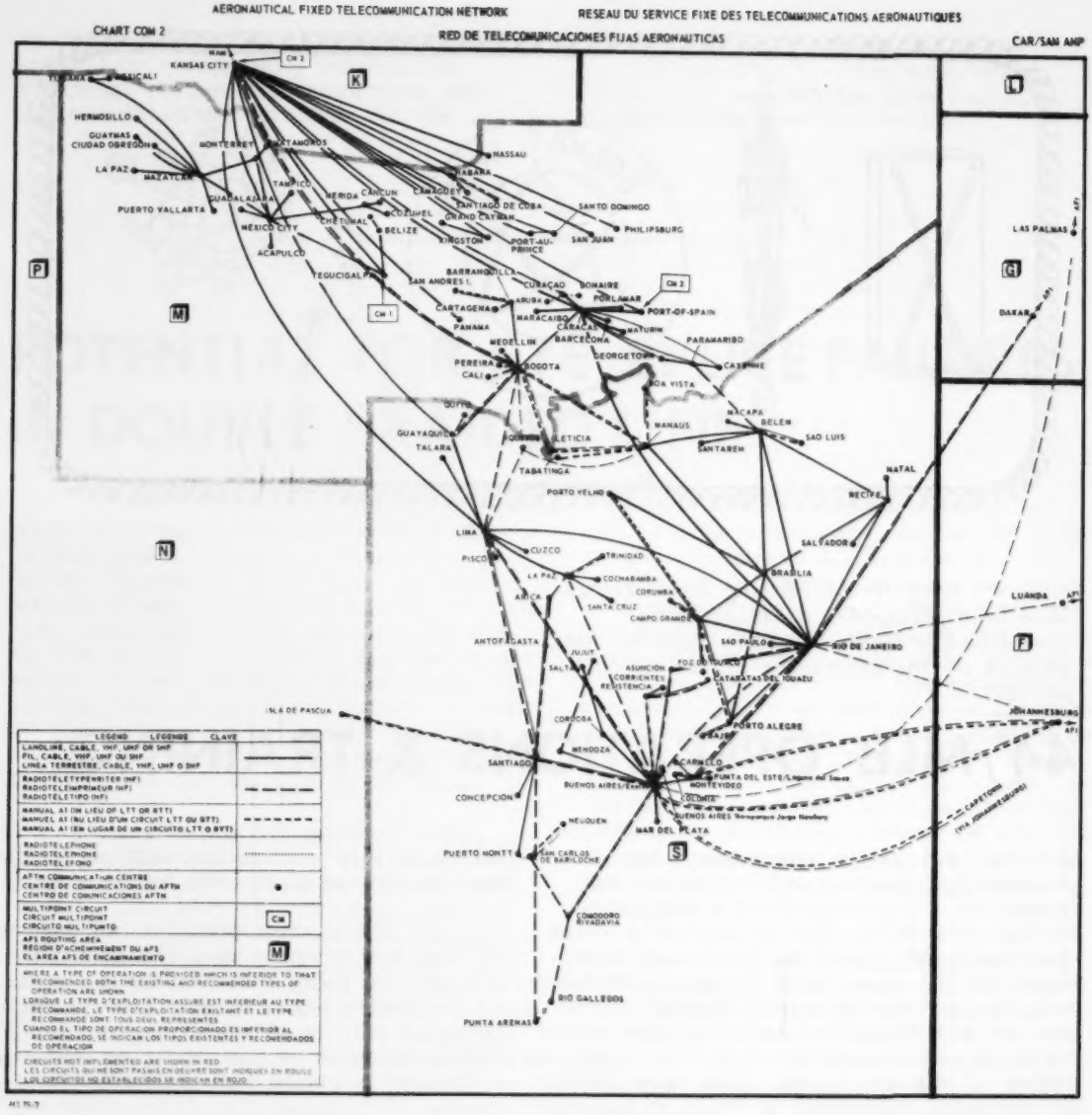
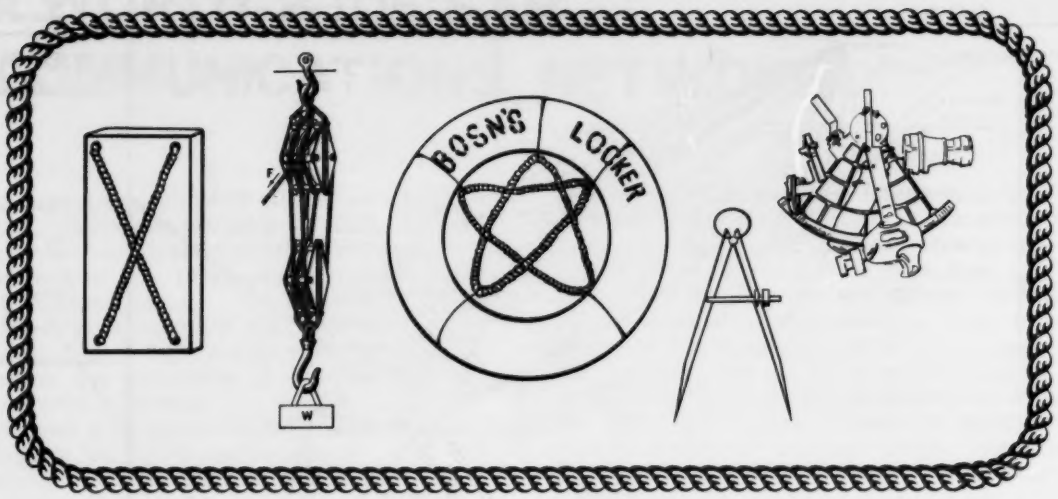


Chart COM 2 from Caribbean and South American Regions Air Navigation Plan



Editor's Note: The following two articles have been previoulsy distributed as Commandant Notices. They are repeated here because of the importance of the subject matter.

44' MLB OPERATIONS & TRAINING

Surf/bar training is a necessary, but potentially hazardous part of 44 ft. MLB Operations. In the hands of a skilled surfman, the 44 ft. MLB is capable of being operated safely in 20 ft. surf and 30 ft. seas. On the other hand, if improperly handled, the boat can be easily damaged in the curl of an 8 ft. wave. Over the past winter there was, what appeared to be, an inordinate number of MLB casualties. Some were caused by coxswains attempting to train in sea conditions beyond their capabilities; others were caused by the coxswain operating in surf conditions beyond the design capability of the boat itself. The latest accident occurred in 20-25 ft. seas, injured one crewman, caused $26,000 damage, and resulted in the loss of the boat from service for 4-6 weeks. Accidents caused by coxswains operating or training in environmental conditions beyond their knowledge and skills or beyond the boat's design is not acceptable.

In order to reduce the potential for personnel injuries and vessel damage, the following safety standards will be followed when conducting 44 ft. MLB surf/bar training:

a. The maximum persmissible surf conditions for training when the designated coxswain is fully qualified as a surfman in accordance with the Boat Crew Training Guide (G-313) is 15 feet. The surfman must remain adjacent to the throttles whenever a trainee is at the helm while in the surf.

b. The maximum permissible surf conditions for training when the designated coxswain is not fully qualified as a surfman in accordance with CG-313 is 10 ft. The coxswain must remain adjacent to the throttles whenever a trainee is at the helm while in the surf. During all surf/bar drills all persons on board shall wear safety helmets, PFDs, and be securely fastened to the boat with safety belts when operating in surf. Wet-suits are not required unless the sea water temperature is 60 degrees fahrenheit or less. PFDs are not required when using wet-suits.

It is not the intent of this notice to curtail or reduce heavy weather MLB Training. Rather, it attempts to set reasonable safety standards for the MLB training environment that will provide adequate training experience while still keeping the potential for injury and/or loss to a minimum.

POTENTIAL FOR EYE SPLICE FAILURES IN DOUBLE BRAIDED LINE

Commander Naval Sea System Command (COMNAVSEASYSCOMM) advises of recent eye splice failures in 2-1 doubled braided mooring lines. Other information indicates that there has been one fatality and one serious injury in recent months due to eye splice failures in this type of line. The failure occurred at the vertex or "X" mark of the splice as described in numerous splicing instructions. The cause of these failures was the splicing method used.

The basic priciple for splicing double braided line is that the "cover goes into the core, and then the core goes into the cover". The 16th edition of Knights Modern Seamanship (KMS) as well as previous editions of Sampson Splicing Manual (blue cover) recommend that after the core is brought back thru the cover that it be cut at the vertex or "X" mark. At this point in the splice where the core has been cut, there will be a flat spot and this leg of the splice will only be about 50 percent of the breaking strength of the original line. KMS states "although the core is cut at the fork of the eye, leaving only the cover bridging that point, the strength of the splice is not affected as long as nothing binds the eye on that side while the strain is being applied. With the legs of the eye sharing the load equally, the splice is 100 percent strong".

After analysis of recent accidents, the Navy found that if after tension is applied, the line rotates or walks around a holding device such as a bollard, bitt, or cleat, etc. a disproportionate loading can occur in the two legs of the eye splice. The difference in loading depends upon the roughness of the bollard, bitt, or cleat, and whether the line is wet or dry. A dry line on a very smooth and shiny holding device can have one leg of the splice experiencing twice as much load as the other. A wet line on a rough or rusty holding device can experience as much as 17 times as much load on one leg as the other. If the leg experiencing the higher load happens to be the leg on the splice that has the core cut at the vertex, then the line can break at half its rated breaking strength.

The most recent edition of Sampson Splicing Manual (red cover) recommends that the core be worked into the cover one half a fid length beyond the "X" mark or vertex, and states that this splice retains 100 percent of its original diameter, and about 90 percent of the strength of the rope. COMNAVSEASYSCOMM did not state what degree of strength could be expected from this new splicing method. He merely indicated that some improvement could be expected, but how much was unknown and would not be known until they had completed testing in about twelve months.

The only way that a splice may be inspected to determine if the older splicing method described in the second paragraph was used, is to feel the eye splice at the vertex for a flat spot. This flat

spot may not be readily apparent and careful inspection is required.

Double braided line is authorized for all Coast Guard cutters and boats. These units should inspect all eye splices to determine if flat spots exist. If flat spots are found, two alternatives are recommended before a heavy strain can safely be applied to the line. One, the line may be respliced using the method for "new rope" described in the latest Sampson Rope Manual (red cover). Putting an eye splice in used line using the method for "new rope" may not be very easy since used line has usually undergone shrinkage due to heat and permanent elongation from use, and it may not be possible to work the core into the cover beyond the "X" mark. A word of caution: do not use the method of splicing "used rope" in this same manual as this method also recommends cutting the core at the "X" mark much the same as the method described in the second paragraph above. If the line is respliced, it it suggested that the line be marked in such a manner to indicate that it is safe to use, and that these markings be retained until all lines have been respliced or replaced. An alternative to resplicing is to use a strain gauge on the line. Since a splice with the core cut at the "X" mark may part at 50 percent of the breaking strength of the original line, 30 percent of breaking strength is considered to be the safe working load for this type splice, 2-1 double braided nylon stretches approx 13 percent at 30 precent of breaking strength. For example, if the desired distance between marks on the relaxed line is 30 inches, then the length of the strain gauge should be 33.9 inches or approx 33 7/8 inches (30 inches + 0.13 X 30 inches = 33.9 inches or approx 33 7/8 inches).

Training commands and training teams should amend their splicing procedures accordingly.

A copy of the most recent Sampson Splicing Manual (red cover) may be obtained on a one time basis by forwarding a rapid draft letter to:

Commandant (G-OSR-1)
U. S. Coast Guard Headquarters
2100 Second Street, S.W.
Washington, D. C. 20593

SAR AID (CONT.)

contacts, such as submarine periscopes, at distances in excess of 100 nautical miles. They stated that, as a fuel-saving tool the use of the Navy E-2 and the Air Force E-3 aircraft is highly recommended.

NAVY P-3 AIRCRAFT EQUIPPED WITH FLIR

A movie film has recently been reviewed which showed the capability of Navy P-3 aircraft with Forward Looking Infra Red (FLIR) equipment installed. Such aircraft could provide a means of night search or of search during low visibility. It was stated at the time that a significant number of Navy P-2s are now equipped with FLIR.

POSSIBLE USE OF THESE SPECIAL PURPOSE AIRCRAFT.

The National Maritime SAR Program Facilities Plan (COMDTINST M16130.3) lists DOD and Coast Guard Facilities available for Maritime SAR. As part of this Plan each District SAR Officer will have to negotiate support agreements with DOD commands within their SAR area. Such special capabilities if available, should be included as information in the agreements.

As in the case with other special purpose DOD aircraft, if other means have not been directed or arranged, the Air Force RCC at Scott AFB can be called on to help in getting the assistance of E-3 or E-2 aircraft in special cases.

COMPENSATING FOR HIGH DRIFT RATE

The procedure contained in paragraph 850.b of the National SAR Manual to account for high drift rate during a search has been challenged as not efficient. A search pattern, intended as a replacement to the procedure, has been tested and used during actual SAR cases in the Seventh Coast Guard District for Gulf Stream searches. The pattern is the Parallel Track, Single unit, Drift compensated Pattern (PSD). Figure 1 shows a regular geographic plot of a Parallel Track, Single Unit (PS) pattern with legs in the direction of drift. It also shows the corresponding relative plot.

Note that, as the search field drifts during the search the PS pattern is skewed with relation to the desired field of search so that part of the field is left unsearched.

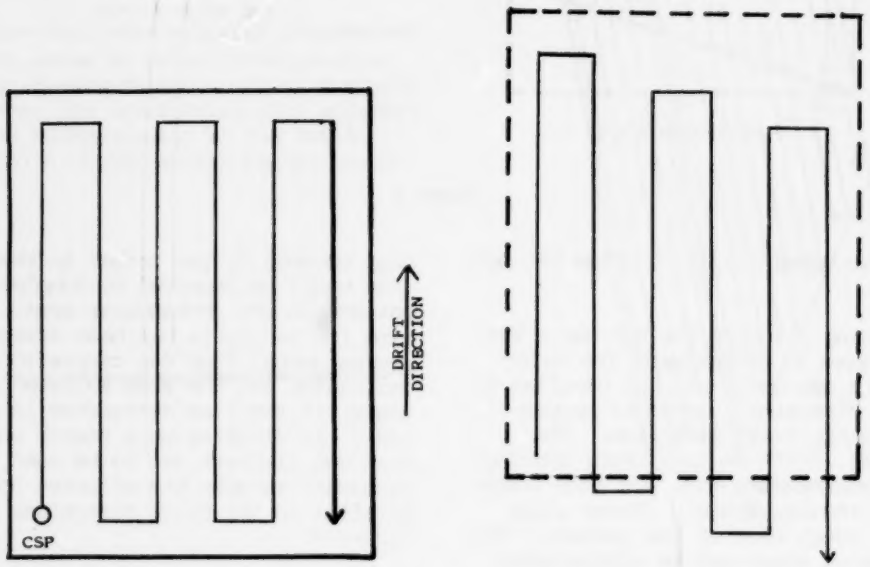


Figure 1

In order to compensate for the drift during the search, the PSD pattern is flown as shown in the geographic plot of Figure 2. The results in the relative plot as shown in Figure 2. Note that the pattern is similar to a PS pattern except that it is skewed into the shape of a parallelogram in order to compensate for the drift during the search. Skew of the crosslegs is ignored.

Now the desired field of search is covered by the desired parallel tracks as shown in the relative plot of Figure 2.

The existing procedure in paragraph 850.b of the SAR Manual calls for searching parallel to the drift direction and for a sufficient extension of the search area in the direction of drift. This too will insure that the desired field of search is

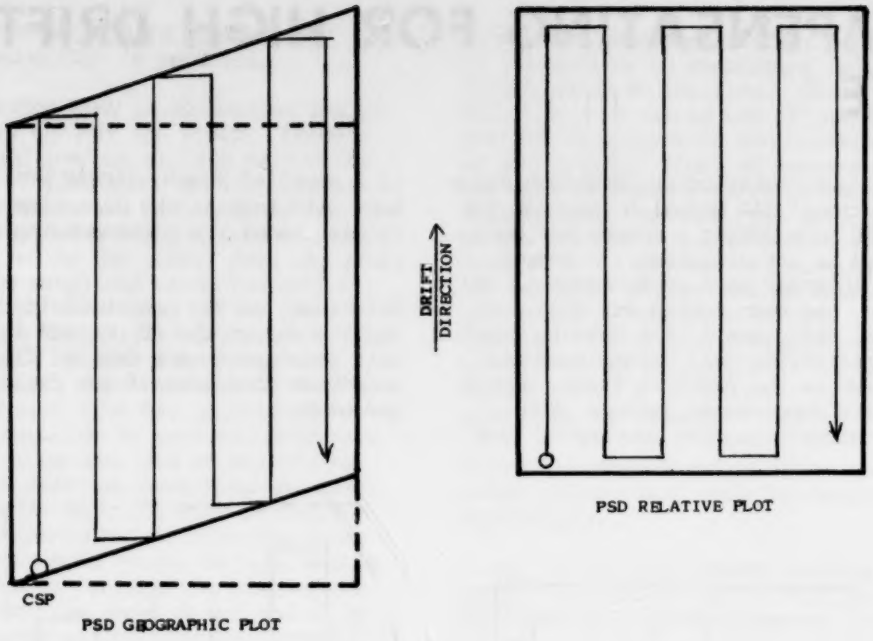


Figure 2

covered but takes longer than the PSD pattern.

When planning a search for PSD use a rectangular area is determined. The major axis of the search is aligned parallel to the drift direction. Creep is perpendicular to the drift direction. The search area, drift vector, track spacing, pattern designation, etc. are than transmitted to the SRU (SRUs). These units lay out a rough plot of the pattern. The parallelogram shape can be approximated by advancing the corners of the rectangle, which are on the down creep side in the direction of drift a distance equal to that covered by the target in the time that would be required to complete a PS pattern in the rectangular area. Once the time for one cycle has been determined, a new estimated time for completion can be calculated and the skew adjusted accordingly, if the time difference is significant. In dividing up a search when more than one aircraft are to be used, it is necessary to make the adjacent boundries parallel to the drift direction. See Figure 3.

The PSD pattern can be directed in the SAR action message as in the following example:

1. Search Areas

Area	Size	Center Point	Major Axis
A-1	72X20	27-00.0N 79-41.5W	350T
A-2	72X10	26-57.5N 79-58.0W	350T

2. Execution

Area	Unit	Parent Acty	Type	Enter	Track Spacing	Creep	Drift	Alt.
A-1	HC131	CGAS Miami	PSD	SW	2.0	080T	350T/4.5	1000
A-2	HC131	CGAS Miami	PSD	SW	2.0	080T	350T/2.6	500

Prior to departure, each navigator should plot the tracks for all search areas so that he will be prepared if his aircraft is diverted to a search area different from that originally assigned. Figure 3 shows how the geographic plot of these patterns will look if the aircraft arrive on scene on time and no diversions for sightings are made. Note that, as is common in the Gulf Stream, the drift rate is different in the two adjacent search areas. In such cases of varying rates, the average current in each area is used for planning the skew of the area. If an aircraft arrives on scene late, or makes diversions during the search, the tracks, and thus the parallelograms, can be readjusted based on the given drift.

It is important that adjacent boundaries of search areas be established parallel to the drift direction as shown in Fiqure 3. If they are established with adjacent boundries perpendicular to the drift direction, a flight safety hazard could result.

PSD TWO AIRCRAFT

Figure 3

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	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A	3		3	3	3	3	3	3	2	2	2	2	3	3		1		1	1		5	6			2	
B		5	25		25	10	40	10	3	2	2	1	2	10	1	1	1		1	1						
C	5	3		3	1	1	1	1	5	1			1	1	2	1		1	1	2	1		1			
D	1			1			1			1	1	2		1	1		1			2	2	2		2	1	1
E											1	1		1												
F		1	1							1	1		1			1										
G																										
H	1	1	1		1	1																				

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ON SCENE

THE NATIONAL MARITIME SAR REVIEW

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DEPARTMENT OF TRANSPORTATION

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ON SCENE
THE NATIONAL MARITIME SAR REVIEW

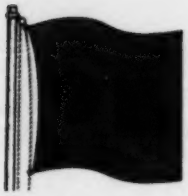
PANIC AMONG SURVIVORS

In a recent case where a cutter attempted to remove a large number of refugees from an overcrowded boat, the refugees crowded to one side of their unstable boat and capsized it. Luckily, practically all of them were recovered from the water. This incident brought to mind another which occurred some years ago in which a helicopter was trying to evacuate stranded flood victims from the roof of a building when the group of survivors panicked and, despite the efforts of the helicopter crew, swarmed aboard in such numbers that the helicopter crashed.

In both instances, the survivors apparently feared that they might not be rescued even though rescue was at hand and their fears resulted in a worsening of the situation to a very dangerous point. SAR personnel should be aware of this very human urge to be saved promptly after an ordeal, the panic it may induce, and the danger that the panic may present to both the survivors and the rescue crews.

When a situation is recognized as one which might generate panic among survivors, steps appropriate to the situation should be taken to inform the survivors of the actions which will be taken to effect an orderly rescue of all of them and to alleviate their fears. The rescue crew should be alert to the first signs of panic so as to maneuver to protect the safety of the rescue operation.

ON SCENE is a SAR publication published by the Commandant, U. S. Coast Guard as a source of information concerning current and proposed procedures as well as new developments in SAR. Articles contained herein are non-record and non-directive.



Visual Distress Signals to Be Required

Editor's Note: Reprinted from the Boating Safety Newsletter, Fall 1980

Effective the first of January 1981, boats on the coastal waters of the U. S. and U. S. registry boats on the high seas must carry visual distress signals. This according to the new subpart C of part 175, Title 33, Code of Federal Regulations, issued under the authority of the Federal Boating Safety Act of 1971, 14 U. S. Code 1454 and 1488.

On boats 16-feet or more in length or carrying six or less passengers, certified or approved visual distress signals in the proper number must be carried for both day and night use. For boats under 16-feet operating at night, only the certified or approved signals for night use must be carried. The three exemptions from the rule are: (a) boats competing in an organized marine parade, regatta, race or similar event; (b) manually propelled boats and; (c) sailboats under 26-feet with completely open construction and without propulsion machinery.

In the visual distress signal regulation, two definitions are important, "Coastal Waters" is defined as, "the Great Lakes and territorial seas of the U. S., and bays and sounds which empty into these waters. Rivers inside a line tangent to their headlands are not included unless the distance across the river is over two miles. All portions of a river from the mouth to the point where the river first narrows to two miles are included." The second definition is of "Visual Distress Signals". It states, "a device that is approved by the Commandant under 46 CFR 160 and 161."

Operators of affected boats may choose from a group of approved or certified devices as long as they meet the requirement for their boats. For instance, if a boat is 20-feet long, the operator may choose to have only three pistol or hand projected parachute red flares that are approved for day and night use. If he chooses the pistol projected flares he must also have an approved launcher to fire the flares. He might choose three approved hand held orange smoke signals for day use and a certified electrically powered distress light for night use.

The range of choices is contained in the Coast Guard pamphlet "Federal Requirements for Recreational Boats" (CG-290). The recommended numbers on page 18 of the 1979 edition are also the required numbers that must be carried after January 1, 1981.

Other requirements for the visual distress signals read much like the personal flotation device (PFD) regulations. The signals must be readily accessible and in serviceable condition. "Serviceable", in this case, means that they must not only be in good physical condition, they must also have a date on them that has not expired. Also, as in the case of PFD's, the signals must be clearly marked with the approval number or certification statement.

Some non-approved pyrotechnic devices will be acceptable as meeting the requirements until July 1, 1982 so long as they remain in good and serviceable condition They are the aerial red flares, either hand held or pistol projected for the day and night requirement. Also acceptable are the hand held or floating orange smoke signals for day requirement only and signal pistols for use with cartridges accepted as meeting the approval requirements.

The final provision of the regulation prohibits the display of a visual distress signal on the waters to which this regulation applies under any circumstances except where it is needed because of immediate or potential danger to the persons on board.

EMTS - LIFESAVERS

By CDR Jim Tasker

Special Medical Operations

Since the Coast Guard's EMT School at TRACEN, Petaluma began operations in January, 1979, over 700 Coast Guard men and women have graduated as EMTs (Emergency Medical Technicans). Prior to that time, approximately 800 Coast Guard personnel were trained as EMTs through civilian schools or through the the Coast Guard schools in the Thirteenth and Seventh Districts. The greatest impact of the EMT program on SAR operations (and the biggest benefit as well) has been at Coast Guard Stations and on Patrol Boats. Most boat stations and all 95 and 82-footers have no corpsmen, medical officers or physician assistants to respond on MEDEVACs. On these units the EMT is the only medically trained person available; and these EMTs already have proven their value to the SAR system. The following cases are examples of their fine work.

On the morning of September 15, 1980, MK3 Bob SOUZA, an EMT at CGS Swansboro, NC saved the life of a 14 year old girl. Group Fort Macon had received a telephone call from the local police that four swimmers had been caught in the strong current off Bogue Inlet pier. A 30-foot UTM got underway with MK3 SOUZA aboard. Subsequently three of the four persons were reported safely ashore. Three hours later, the missing person was picked up by a private boat; the person was reported as apparently dead from drowning. Shortly thereafter the UTM with SOUZA aboard arrived on-scene and the girl was transferred to his boat. SOUZA immediately began one man CPR (cardiopulmonary resusciation). This was particularly difficult because the only space available to do CPR was on the 30-footer's engine cover. Therefore another boat crewmen had to hold him around the waist while he administered the CPR. Meanwhile the boat raced to shore. MK3 SOUZA continued one-man CPR by himself for over 40 minutes en route to shore. The girl was delivered to an ambulance and was taken to the hospital. There she regained consciousness. Unfortunately, complications from her near-drowning accident set in, and she died fifteen hours later.

This case demonstrates a remarkable effort by MK3 SOUZA. One-man CPR is strenuous enough for even short periods of time, let alone for 45 minutes on the engine cover of a fast-moving 30-footer. MK3 SOUZA's determination to save the life of this girl is an example of the professionalism of a well-trained SAR crewman.

Another near-drowning incident took place this past summer at Station Port Isabel, Texas. On the afternoon of June 8th, a call came in from a local restaurant requesting an ambulance for a man who had just been pulled from the water apparently dead from drowning. SN Jeff HALL, a Coast Guard EMT, and SN

MARTIN arrived at the restaurant 2 minutes later via the Station's mobile - one. They found a crowd of spectators standing around the near-drowned victim, assuming him to be dead. SN HALL immediately performed an initial patient survey ("ABC"s Airway, Breathing, Circulation). He found that the victim was not breathing, but he still had a weak pulse. SN HALL then began mouth-to-mouth breathing while monitering the man's pulse. By the time the local ambulance arrived, thirty minutes later, the man had regained consciousness and SN HALL was giving him oxygen, Without a question SN HALL's fast action saved this man's life.

Last year another near-drowning case occurred near Station Port Isabel. A call was received stating that a woman had drowned at the North Jetty. HM3 Jim GOSS (now HM2) left at once via the station vehicle for the scene. There he saw a man walking through the surf with a body in his arms. A young woman had fallen off the pier and had struck her head. Her husband had ventured into the breakers after her, but it took approximately ten minutes before he could find her (floating face down) and carry her out of the water. By the time HM3 GOSS reached the man, he was nearly out of the water on the beach.

GOSS helped lay the woman on the hard packed sand of the beach, and he performed an initial patient survey. She was unresponsive, had no pulse and was not breathing. GOSS opened her airway, gave her four quick breaths and started one-man CPR. FNMK (now MK3) J. SOWERS, an EMT at CGS Port Isabel, arrived on the scene shortly thereafter and proceeded to assist GOSS in two-man CPR. When an ambulance arrived, GOSS continued the mouth-to-mouth resuscitation and the ambulance attendant took over the chest compressions. A few minutes later, GOSS found that the woman could breath on her own and had a detectable pulse. He administered oxgen and accompanied the woman to the hospital. The woman has now fully recovered thanks to the work and skill of HM3 GOSS and MK3 SOWERS.

During May of this year, a call was received at CGS Lorain, Ohio that a 14-foot sail boat had capsized about 1 1/2 miles off shore in Lake Erie. Several attempts had been made to right the boat, and shouts for help were reported. It was then getting dark, and a storm was developing. CGS Lorain radioed its 41-foot UTB, already underway, to respond to the case; it was on-scene in approximately 30 minutes. Because of the darkness and the storm, the crew had difficulty locating the capsized sail boat. Spectators on shore helped direct the 41-footer until finally faint shouts for help were heard by the boat crewmen. Onboard was SN Tom BOSSANY, a graduate of the Coast Guard EMT School. SN BOSSANY saw one person in the water, apparently unable to swim, but wearing a PFD. A line was thrown to the victim and he was pulled into the boat. The victim was a 20-year old male who had been in the 55 degree water for a least 90 minutes. The victim was taken to the cabin and his wet clothes were removed. He was conscious, but he could barely speak or move because of hypothermia. SN BOSSANY treated the man with body-to-body rewarming for about 10 minutes. He rewarmed sufficiently to speak, and he explained that there were three other passengers on the sail boat in the water and in need of rescue. The victim refused to be taken back to shore until the other persons were found.

A search pattern was started further offshore, as the victim told the boat crew

that he had attempted to swim ashore for help. At about this time, a helo from the Erie County Sheriff's Department arrived on-scene to assist in the search. Search lights were turned on by both the Coast Guard boat and the Sheriff's helo. The weather had now turned sour with high seas and rain, making the search very difficult. Finally voices were heard in the water, and the hull of the overturned boat was illuminated by the searchlights.

Three people were spotted; two were on the hull and one was in the water. The helo drooped three divers into the water to help rescue the survivors. The victims clinging to the hull were both women, and they were both wearing PFDs. The third victim was a man who was barely able to swim and who was not wearing a PFD. SN CURTIS, one of the UIB crewmen, jumped into the water to rescue the man. He was quickly pulled into the boat and he was taken to the forward compartment where his wet clothing was removed. Meanwhile the two women and the three divers were also picked up by the 41-footer. The male victim was examined and treated by SN BOSSANY. He was severly hypothermic. He was taken to shore and transferred to a waiting ambulance. Unfortunately he later died in the hospital from complications of his severe hypothermia. Had the male victim worn a PFD and gotten out of the water on to the hull of the sail boat, he might have survived. Nonetheless, the crew of the UIB are to be commended for their handling of this difficult case and for the life saved of the first victim.

SN Mary MCDERMOTT, an EMT at CGS St. Claire Flats, Michigan, had to use all of her training and all of the recently received EMT equipment to save the life of a woman this past summer. A call was received from bystanders on an island about one and one-half miles from the Station. They reported that a man had severely beaten his wife and had thrown her into the weeds. The station dispatched their 21-footer, with SN MCDERMOTT aboard, to the scene. It was apparent on arrival that the young woman had received severe chest and abdominal injuries and was bleeding internally. She was intermittently in and out of consciousness, and she was in shock. A local nurse from the island also arrived on scene to assist, but since the nurse had very little emergency medical knowledge, SN MCDERMOTT took charge of the patient's care, managing her airway and treating her for shock. Meanwhile, the station's EMT equipment was transported to the scene by a Coast Guard Auxiliary boat. The victim's blood pressure was dropping, indicating a deepening of the patient's shock.

SN MCDERMOTT applied the newly arrived medical anti-shock trousers (MAST), thus rapidly and effectively treating this life-threating condition. A Coast Guard helo was requested to MEDEVAC the woman, because the seas were running too high for a safe journey back to the mainland by boat. Since SN MCDERMOTT suspected that the woman also had back injuries, the scoop stretcher and a long spine board were put on before the woman was flown off the island. SN MCDERMOTT accompanied the woman to the hospital, administering oxygen and monitering her blood pressure, pulse and breathing. Several weeks later the woman had fully recovered and was released from the hospital. Incidentally, her husband was arrested by the local police. Because of her training and the proper use of the EMT gear, SN MCDERMOTT unquestionably saved

the life of the woman, who otherwise would have died at the scene of her injuries.

The above cases represent only a few of the hundreds of MEDEVAC Report Forms sent to Headquarters since the forms were distributed last Spring. To those EMTs and HMs who submit the MEDEVAC report Forms, as required by COMDTINST 16135.3, keep up the good work. Each case is carefully reviewed, and the data is stored in a computer in the Office of Health Services. There are three good reasons why you should take care when filling out the MEDEVAC Report Form. First, it serves as a record of what you did for the patient and in what condition you delivered him. Second, the form serves as an aid in performing your secondary survey, and as a reminder to frequently monitor the patient's vital signs. Finally, it allows us to evaluate the number and types of MEDEVACs performed, so we can modify the curricula at the EMT and HM schools (if necessary) and provide better medical equipment to the SAR units.

The EMT School at TRACEN, Petaluma began classes again last month. Coast Guard personnel wishing to attend should submit their names to Commandant (G-PIE) through their chain of command. Graduates of the EMT School should check with their administration office to see that they have been awarded the EMT Qualification Code (HD). A recent decision has been made to award the qual code to graduates of civilian EMT Schools as well, so long as these graduates earn certification in the state in which they were trained. A COMDTNOTE will be forthcoming shortly announcing this decision.

SAR BIBLIOGRAPHY

The National Technical Information Service (NTIS), Springfield, VA 22161 has updated its bibliography entitled Search and Rescue Methods and Equipment, a Bibliography with Abstracts 1964 - June 1980. First published in 1977, the bibliography lists unclassified reports since 1964 available through the NTIS. The updated version covers 1964 to June 1980. The publication number is PB 80-812837 and the price is $30.00.

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ON SCENE

THE NATIONAL MARITIME SAR REVIEW

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U.S. COAST GUARD ISSUE No. 5/6-80

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ON SCENE
THE NATIONAL MARITIME SAR REVIEW

COXSWAINS! Don't Blind the Helo Pilot

The pilot of a Navy helicopter, operating on a night time SAR case with a Coast Guard 41 footer reported that his situation was endangered when, while hovering with personnel on the hoist, the 41 cruised under the rotor blades with flashing blue strobe and a white spotlight on, and partially blinded the flight crew. The pilot further stated that, had the helo experienced an emergency dictating a water landing, lives most certainly would have been jeopardized.

Paragraph 977 of the National SAR Manual says in part about coordinated helicopter/boat rescues: "The boat must be careful not to cross over the helicopter's hoisting cable, not to cross between the survivor and the helicopter, and to always stay within the pilots range of vision". To which might be added: *And never operate lights in such a way as to blind the flight crew.* This latter is a precaution which surface craft must observe anytime they are operating with aircraft.

ON SCENE is a SAR publication published by the Commandant, U. S. Coast Guard as a source of information concerning current and proposed procedures as well as new developments in SAR. Articles contained herein are non-record and non-directive.

CGAUX SAR - HAWAII

COAST GUARD LAND OPERATION - ANOTHER MAUI MISSON

By Edward Ketcham Jr. FC-26

On Friday 2 May 1980, a lone motorcyclist/hiker heading up Puukolii Gap, west Maui, did not return home. After 24 hours he was reported as missing to Joe Allison (CG Auxiliary Radio Lahaina). Allison in turn called Herb Santos FS/GR-26, renowned local knowledge expert and "finder".

Santos, accompanied by his son (U.S. Marine home on leave), and Donald Duarte (flotilla trainee) departed immediately in his four weel drive vehicle for the 30 mile drive to the search area. Meanwhile Allison organized the search effort, including notifying CGC CAPE NEWAGEN, JRCC (with a request that Barbers Pt. Air Station be alerted), FC Ed Ketcham (CG Auxiliary Mobile Maalaea One), flotilla member Joe Sadang and others.

Within two hours, two off highway vehicles, two autos, three motorcycles and related personnel were deployed at the 4000 foot leval above Kaanapali, with inter vehicle CB comms. Terrain made it necessary to abandon the highway vehicle, including Mobile Maalaea One, thereby reducing the group's VHF radio capability to a hand held unit made available but one week previous by Commodore Willys Lord at the suggestion of Director of Auxiliary, John Witherspoon.

The missing man was located by the advance group when they observed smoke from a fire he had started, but were unable to approach directly due to an intervening ravine. He was hobbling with aid of two sticks. On Scene Commander Santos determined that, due to the injury and the terrain it was not possible for the subject to walk or be carried out, even though there was a scoop stretcher at hand, and that a rescue helo was advisable.

Upon initiating VHF communications with the hand held unit, it became apparent that the proximity of west Maui mountain peaks precluded contact with Honolulu Communication Station via their Maui unit on Haleakala. At this point Phil Cole, aboard M/V HOOD and operating off Lahaina, volunteered to function as radio rely. Communications were routed (a) advance party to land vehicle via hand held CB, (b) land vehicle to HOOD via hand held VHF unit, (c) HOOD to Honolulu via ship radio, including phone patch with JRCC.

Upon despatch of CG helicopter 1420 from Barbers Pt., flight altitude and the 4000 foot elevation of the search party made direct communications with the helo possible via the handheld VHF from the time the aircraft made its Ops Normal report while off Koko Head, Oahu. The aircraft was requested to make its Maui landfall at Kaanapali Airport at which time it was vectored directly to the communications point on the mountain by visual observation, and from there two miles onward to the survivor.

CG 1420 performed a masterly approach and pickup operation under difficult conditions of high altitude, gusty wind and rough terrain. It effected a quick transfer to Kaanapali Airport.

Chalk up one more person alive today through the joint efforts of the Coast Guard and the Coast Guard Auxilliary.

RESCUE & SURVIVAL EQUIPMENT UPDATE

By CWO David Passman

The following information is provided to keep you up to date on the Coast Guard Rescue and Survival Systems Manual (COMDTINST M 10470.10).

This manual has been in the field for just over a year. Everyone concerned will agree that it has done a lot to help units maintain their rescue and survival equipment. The intent of this manual is to be an up-to-date single source of information relevant to rescue and survival systems in use by the Coast Guard which are of general use. This can only be accomplished through an exchange of information between field units and Headquarters. Comments and recommendations are encouraged. The most effective way to do this is by using the tear-out comment form supplied in the back of the manual.

CHANGE 1 ALMOST COMPLETE

The first change to the Rescue and Survival Equipment Manual is now near completion and should be distributed to field units in 1981. In the meantime the following comments should be helpful.

EMERGENCY FLOTATION BAG (EFB)

The Emergency Flotation Bag (EFB) was developed to provide emergency flotation to boats in danger of sinking and is intended to supplement the dewatering pump. Almost all small boats have had their "Boat Allowance List" adjusted to reflect the requirement for the EFB to be carried on-board. The EFB has proven to be extremely effective when used as prescribed. Complete maintance instructions are contained in the manual.

STOKES LITTERS

Change 1 will contain complete instructions on the modification to the stokes litter. The modification will authorize the use of polyester hook and pile tape as restraint straps, which will greatly increase the effectiveness of the litter when used for in-water rescue operations. This modification underwent extensive testing at the Emergency Medical Technican (EMT) School at Petaluma, CA with extremely successful results. Other modifications will include length changes to the 5 inch flotation tubes and a narrower chest pad.

NOTE: Stokes litters previously modified as per previous directives need not be changed unless conditions or intended use dictate. The modified tubes will be attached on an attrition basis only.

PERSONAL MARKER LIGHT (PML)

The Personal Marker Light (PML) now being stocked under stock number CG-6260-01-086-8077 is the authorized replacement light for the one cell flashlight used on abandon-ship personal flotation devices (PFD's). It does not replace other authorized PFD lights or survival kit lights. The PML with a shelf life of 2 1/2 years and constructed to take the normal "hard knocks" of shipboard handling should prove to be a reliable and effective replacement for the old one-cell flashlight.

PERSONAL FLOTATION DEVICES (PFD's)

Field testing will commence shortly on an inflatable personal flotation

device (PFD) for both general service and aviation use. The PFD to be tested is the result of years of design and development with you the wearer in mind. Not yet assigned a MK or MOD number, this PFD will attempt to provide the wearer with both comfort and a maximum amount of flotation. The PFD will contain pockets so that all necessary signal and survival items can be carried on the PFD so as to make this not only a PFD but also a survival vest. It is believed that the weight will be light enough and the appearance appealing enough so that boat crews will not mind wearing it under all operation conditions.

RETRO-REFLECTIVE TAPE

Chapter 5 of the COMDTINST M10470.10 contains instructions on the application of retro-reflective tape on PFD's. The steps for the placement of retro-reflective tape on the back of the PFD's were inadvertantly omitted; change 1 will contain all the requirements and instructions for application of the retro-reflective tape.

EXPENDABLE SURFACE CURRENT PROBES (ESCP's)

The fate of the expendable surface current probe (ESCP) is now being examined. A low usage and a high failure rate is suspected. This has generated cause to re-examine this item. The Commandant (G-OSR-4) would appreciate any comments on the operational use of the ESCP.

WET SUITS

The 3/16 inch neoprene foam, nylon lined wet suit that is properly fitted is an extremely valuable hypothermia protection device. A loose fitting wet suit will allow cold water flushing of the suit, thereby drastically reducing its effectiveness. When was the last time you tried your wet suit on?

ELECTRIC FLOAT LANTERN

A few units have reported that the electric float lantern FSN 6230-00-782 0643 are not floating in the vertical position and therefore the mercury switch is not getting activated. The problem is now being examined and units with this equipment should inspect the light for proper working order.

LIFE RAFTS

With life rafts now getting inspected at approved service facilities as listed in COMDTINST M 16714.3, the requirement for semi-annual inspection has been done away with. The Coast Guard Naval Engineering Manual (CG-413) is now being revised to reflect this change

STOCK NUMBERS

An Appendix A is being planned for the manual. This appendix will provide a listing of equipment and information on how to requesition rescue and survival equipment. The below listed FSN's have either changed or were omitted from the first printing of the manual.

ETHAFOAM 220, 5"x108"
9390-01-076-6556

ETHAFOAM 220, 15"x22"
9390-01-076-6670

EMERGENCY FLOTATION BAG (BF-1)
2090-01-089-3863

FREON CANNISTER FOR EFB
6830-01-070-5207

NEOPRENE CEMET (WET SUIT REPAIR)
8040-00-515-2246

DESSICANT BAG (DEWATERING PUMP DRYING AGENT)
6850-00-264-6573

RETRO-REFLECTIVE TAPE "1
9390-01-082-8927

RETRO-REFLECTIVE TAPE 2"
9390-01-078-8660

Hats Off To 7th COAST GUARD DISTRICT

and all

USCG, USN & USMC Units and Personnel

assigned to

CUBAN REFUGEE OPERATIONS

When Cuba opened the gates for emigration during 1980, a veritable hemorrage of refugees fled across the dangerous Florida Strait. The Seventh Coast Guard District was called upon to mount a special operation, first to provide for the safety of those who became in-distress and second to enforce restrictions placed on U.S. craft engaged in the exodus. Personnel and operating units from all over the country were temporarily assigned to help as were Navy and Marine units and personnel. For a time rescue became an everyday occurance.

The magnitude of the operation can be appreciated from a glance at the numbers of Coast Guard units involved, the numbers of persons involved and the broad statistics of assistance rendered.

From 27 April to 13 July the following numbers of Coast Guard units participated. 2 WHEC Cutters, 10 WMEC Cutters, 15 Patrol Boats, 13 UTBs, 14 BOSDETS, 9 Fixed wing aircraft, 3 HH3 Helicopters, 13 HH-52 Helicopters. Total seagoing Coast Guard personnel involved were 1,125. 1,387 vessels were assisted or escorted. These cases involved 52 sinkings, 12 capsizings, 45 abandonments, 27 deaths.

The total number of people assisted was 125,262. The following letter from Commander-In-Chief, U. S. Atlantic Fleet, who provide support, outlines the Navy and Marine Corps part in the operation and praises the cooperative efforts of this unique peace-time operation.

From: Commander in Chief, U.S. Atlantic Fleet
To: Commandant, U. S. Coast Guard

Subj: Sea services response to Cuban refugee exodus

1. On 21 April 1980 intelligence reports indicated that the Castro government would allow Cuban nationals to leave the country via sea routes and emigrate to the U. S. With forces located in Florida, the Coast Guard was the first federal agency to respond to the resultant boatlift of refugees. By 30 April 1980, it was evident that the refugee exodus was

massive and that additional maritime support was required. On 1 May 1980, at JCS direction, CINCLANT commenced providing Navy and Marine Corps forces to assist in the humanitarian effort both afloat and ashore at Key West.

2. In the at-sea phase of this operation, U. S. Navy ships assigned to Commander, Joint Task Force 140 were placed under tactical control of Commander, Seventh Coast Guard District. Eventually, one LHA (with embarked helos), two LPD's, two LST's, ten MSO's, and five PB's were deployed to South Florida waters. U.S. Navy maritime patrol aircraft conducted ocean surveillance and U.S. Marine Corps fighter aircraft operated in support of the Coast Guard.

3. These units assisted in continuous reconnaissance of northbound and southbound traffic in the Straits of Florida and command and control of surface and air SAR forces. Navy ships and boats worked alongside the Coast Guard, sometimes in adverse weather, to rescue refugees from sinking, unseaworthy, and overcrowded craft. Coast Guard, Navy, and Marine Corps personnel worked together in the towing, repair, and resupply of refugee vessels, and in the feeding, clothing, berthing and medical care of the the refugees. During the five-month period ending 1 October 1980, the joint-service force processed more than 125,000 persons.

4. Execution of this difficult task in support of national policy with minimum advance notice required close interservice coordination and cooperation. Such interaction at all levels of command was outstanding and demonstrated the superb capability of the Navy-Marine Corps-Coast Guard team to respond to a unique peacetime contingency operation unparalleled in the nation's history. As the country's primary maritime search and rescue and law enforcement agency, the Coast Guard role in coordinating all naval forces was exemplary. The professional manner in which the Coast Guard accomplished this challenging mission is in keeping with the highest traditions of the maritime services.

SAR DATA ENTRY WORKSTATIONS

In a continuing program of providing direct access for users of automated systems, the Office of Operations and the Office of the Comptroller are cooperating in a program at the First, Third, Seventh, Eighth, Ninth, Eleventh, Thirteenth, and Seventeenth Coast Guard Districts to permit District (osr) direct data entry for SAR Assistance Reports.

This program involves the procurement and installation of a remote keystation to the Data 100 intelligent terminal at the District Office. The intelligent terminal is further connected to the central computer at the Transportation Computer Center in DOT Headquarters, Washington, D.C. The object of the installation is to provide more timely and accurate data input to the SAR Data System. It is patterned after a pilot program at the Fifth District, and other districts where Aids to Navigation (SANDS) information is similarly handled.

Data entry is expedited by the availability of the terminal to the responsible program office thereby avoiding delays inherent in a central data entry facility. Also, the key operators, while not as efficient as trained key operators, have an understanding of the data being entered and can better control its accuracy. In the Fifth District, the data input error rate was reduced by a factor of ten using this approach.

Eventually, most if not all entry and retrieval of computerized data in the Coast Guard will be accomplished by means of standard terminals to be procured beginning in FY81.

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